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Louis W. Swanson

TWENTY-SIXTH PRESIDENT OF THE SOUTHERN ECONOMIC ASSOCIATION, 1954-1955

The SOUTHERN ECONOMIC JOURNAL

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TIME DEPOSITS, THE BANKING SYSTEM, AND INFLATION

JOHN M. LISHAN AND WILLIAM R. ALLEN

University of California, Los Angeles

Since the "Keynesian revolution," we have been taught that saving is not only the method of freeing resources for capital accumulation; it is, sometimes for good and sometimes for ill, a "leakage" out of the income stream, a depressant of money national income. Federal Reserve authorities some months ago raised the ceilings on interest rates which commercial banks may pay on non-demand deposits (which we shall hereafter call "time" deposits).¹ Apparently the line of thought of the Reserve authorities was that higher rates would encourage saving in the form of increased time deposits, and the increased saving would help to curtail inflation.²

Our concern in this note is restricted to the problem of whether an increase in time deposits, even if—as clearly need not be the case—it represents increased saving, i.e., a disposition of current income, will actually be deflationary.³ Will an increase in time deposits ever be potentially inflationary? If so, under what circumstances will it be non-inflationary?⁴

¹ Maximum permissible rates of interest payable by member banks of the Federal Reserve System on time and savings deposits were raised effective January 1, 1957. See supplement to Regulation Q, section 3, under section 19 of the Federal Reserve Act. The maximum rates prescribed by the Board of Governors had remained unchanged for more than twenty years. Effective the same date, the Federal Deposit Insurance Corporation made similar changes in the maximum rates permitted to be paid by insured nonmember banks.

² According to the *New York Times* (December 9, 1956, section 3, p. 1), Reserve officials "hoped higher rates would reduce inflation by encouraging people to save instead of spend." The Board itself noted that recently "the pressure of demand for credit [began] to bring rates [actually paid by banks] up to the ceilings. After extended consideration . . . the Board concluded that in a period of heavy demands for funds and a relatively high structure of interest rates generally, it would be desirable to permit individual member banks greater flexibility to encourage the accumulation of savings than was available under the existing maximum permissible rates." *Forty-Third Annual Report of the Board of Governors of the Federal Reserve System, 1956*, p. 53.

³ Except for one specified exception near the end of the paper, we shall mean by "deflationary" a fall, both actual and potential, in the money supply; an "inflationary" result is one in which the money supply does or can increase. By "money supply," we mean (a) adjusted demand deposits and (b) currency in circulation outside banks.

⁴ Various other questions could well be raised. On the basis of what philosophy or concept of economic policy does the Federal Reserve fix maximum interest rates on time deposits, i.e., maximum rates at which banks may borrow from the public? The Board notes (*ibid.*, pp. 52-53) that "the legislative history suggests that a primary purpose of these provisions [Regulation Q, section 3] was to prevent unsound practices in competition for time and savings deposits." But it now appeared to the Board that "there was insufficient reason to prevent banks, in the exercise of management discretion, from competing actively for time and savings balances by offering rates more nearly in line with other market rates." And if the objective is to encourage saving by letting rates rise, why maintain a rate ceiling at any level? One could question also how efficacious a fractional increase in the rates is likely to

The public may acquire additional time deposits by disposing of an equal amount of current income or of heretofore idle funds or of other previously accumulated assets directly or indirectly to the commercial banks or to the central bank. Some such acquisitions of time deposits represent acts of saving in the Keynesian sense, and some are merely a change in the form of assets acquired earlier. But whether or not the increase in time deposits is an act of saving, the consequences are not invariably either inflationary or deflationary.

Section I considers the case of increasing time deposits through a reduction in (a) currency held by the public or (b) demand deposits. In such cases, excess reserves of the banking system will tend to rise. This rise in excess reserves makes technically feasible an expansion of loans and of demand deposits, which may or may not result in a potential net increase in the money supply. Section II briefly reviews the consequences of shifts into time deposits from other non-money assets.

I. SHIFTS FROM MONEY INTO TIME DEPOSITS

If the public utilizes part of its income or its accumulated money to acquire time deposits, the stock of demand deposits and the total money supply may be caused to expand: accumulation of a particular kind of asset in the form of time deposits may trigger an expansion of a more liquid asset in the form of demand deposits, and the increase in demand deposits may be greater than the initial reduction in the money supply in acquiring the time deposits.

Let A = actual reserves of commercial banks (in Federal Reserve);

E = excess reserves;

R = required reserves;

D = demand deposits;

ΔD_p = potential increase in demand deposits;

T = time deposits;

r_d = reserve requirement against D ;

r_t = reserve requirement against T .

I. *Shift from currency in circulation into time deposits.* Assume that \$100 of currency in circulation is added to time deposits. Let $r_d = .2$ and $r_t = .05$ for all banks. The balance sheet for the depositor's bank—and for the banking system—would show the following immediate changes, with implicit changes indicated in brackets:

Assets	Liabilities
$A + 100$	$T + 100$
$\left[\begin{array}{cc} R & +5 \\ E & +95 \end{array} \right]$	

be in encouraging saving. Governor J. L. Robertson, who voted against raising the rate limits, had "some doubts as to the effectiveness of such a raising of the interest ceiling in attracting savings to banks, because competing institutions could always pay higher rates. Their ability to pay more is due not to this limitation on banks but to other advantages with respect to such matters as taxation and restrictions as to the nature of assets that can be acquired. In addition, it is questionable whether generally higher rates on savings deposits would bring about a material increase in aggregate savings or would merely influence the form in which savings are held" (*ibid.*, p. 54).

Since $\Delta D_p = \Delta E/r_d$, assuming no cash drain, the potential expansion of demand deposits would be $95/.2 = 475$. Alternatively, we may express ΔD_p in terms of the change in time deposits and of the reserve requirements.

$$\Delta E = \Delta A - \Delta R.$$

In this case

$$\Delta A = \Delta T,$$

$$\Delta R = \Delta T \cdot r_t,$$

and thus

$$\begin{aligned}\Delta E &= \Delta T - \Delta T \cdot r_t, \\ &= \Delta T(1 - r_t).\end{aligned}$$

Finally

$$\Delta D_p = \frac{\Delta T(1 - r_t)}{r_d}. \quad (1)$$

The potential expansion of demand deposits is not, however, equal to the potential net change in the money supply, for the deposit expansion was preceded by a reduction in currency in circulation. Letting ΔM_p represent the potential net change in the money supply and ΔC the change in currency in circulation (with $\Delta C = -\Delta T$)—and thus $\Delta M_p = \Delta D_p + \Delta C = \Delta D_p - \Delta T$ —we have

$$\begin{aligned}\Delta M_p &= \frac{\Delta T(1 - r_t)}{r_d} - \Delta T, \\ &= \frac{\Delta T(1 - r_t) - \Delta T \cdot r_d}{r_d}, \\ &= \frac{\Delta T(1 - r_t - r_d)}{r_d}.\end{aligned} \quad (2)$$

Inserting the values of our illustration in equation (2), $\Delta M_p = 375$.

II. *Shift from demand deposits into time deposits.* Again assume that time deposits rise by \$100, this time through a shift of demand deposits into time deposits.⁵ With the same reserve requirements as before, the balance sheet shows.

Assets	Liabilities
$\begin{bmatrix} A - 15 \\ E + 15 \end{bmatrix}$	$\begin{bmatrix} D - 100 \\ T + 100 \end{bmatrix}$

⁵ Governor Robertson, in his dissenting statement, observed (*ibid.*, p. 55) that "any resulting tendency to shift from demand to time deposits would reduce required reserves and thus release reserves for lending. This would not be in harmony with existing Federal Reserve credit restraint policies." However, as seen below in the text, this type of shift will reduce the potential net change in the money supply.

Potential demand deposit expansion is $15/.2 = 75$.

$$\Delta R = \Delta D \cdot r_d + \Delta T \cdot r_t.$$

In this case

$$\Delta T = -\Delta D,$$

and thus

$$\Delta R = \Delta T \cdot r_t - \Delta T \cdot r_d.$$

Since $\Delta A = 0$ in this case,

$$\begin{aligned}\Delta E &= \Delta T \cdot r_d - \Delta T \cdot r_t, \\ &= \Delta T(r_d - r_t).\end{aligned}$$

Finally

$$\Delta D_p = \frac{\Delta T(r_d - r_t)}{r_d}. \quad (3)$$

In this case, the potential net change in the money supply must be negative: the potential expansion of demand deposits through new loans is smaller than the initial shift out of demand deposits. Since $\Delta M_p = \Delta D_p + \Delta D = \Delta D_p - \Delta T$,

$$\begin{aligned}\Delta M_p &= \frac{\Delta T(r_d - r_t)}{r_d} - \Delta T, \\ &= \frac{\Delta T(r_d - r_t) - \Delta T \cdot r_d}{r_d}, \\ &= -\frac{\Delta T \cdot r_t}{r_d}.\end{aligned} \quad (4)$$

In our illustration, $\Delta M_p = -25$.

In both cases I and II, the increase in time deposits is preceded by a fall in the money supply and is accompanied by an increase in excess reserves and thus in potential demand deposit expansion. If a potential expansion of demand deposits is undesired, an increase in excess reserves must be avoided. This would be achieved in case I, where there is an initial money flow into the banks, if required reserves were to rise by the amount of time deposits, i.e., if $r_t = 1$. This is illustrated by equation (1): since $\Delta D_p = \Delta T(1 - r_t)/r_d$, if $r_t = 1$, then $\Delta D_p = 0$. Similarly, we may restrict the potential net expansion of the money supply to a value of zero by making the sum of the two required reserve ratios equal one: since, in equation (2), $\Delta M_p = \Delta T(1 - r_t - r_d)/r_d$, if $r_t + r_d = 1$, it is apparent that $\Delta M_p = 0$.

In case II, where there is initially a shift in deposits from one category to another, there would be no net change in excess reserves if the reserve requirement were the same for both demand and time deposits. Since, in equation (3), $\Delta D_p = \Delta T(r_d - r_t)/r_d$, $\Delta D_p = 0$ if $r_d = r_t$. And since, in equation (4), $\Delta M_p = (-\Delta T \cdot r_t)/r_d$, $\Delta M_p = 0$ if $r_t = 0$.

To encompass both cases with single rules, in order to keep the potential expansion of demand deposits equal to zero, we must specify that $r_d = r_t = 1$: a system of 100 per cent reserves against all deposits; in order to keep the potential net expansion of the money supply equal to zero, it must be the case that $r_t = 0$ and $r_d = 1$.

To this point we have assumed that the situation is purely one case or the other, i.e., the increase in time deposits is matched either by a fall in currency in circulation or by a fall in demand deposits. We may broaden the analysis to include the situation in which both changes occur. Let ΔT_m represent the increase in time deposits stemming from a deposit of currency and ΔT_d the increase resulting from a shift out of demand deposits.

$$\Delta A = \Delta T_m,$$

and since $\Delta D = -\Delta T_d$

$$\Delta R = (\Delta T_m + \Delta T_d)r_t - \Delta T_d \cdot r_d.$$

Thus

$$\begin{aligned}\Delta E &= \Delta T_m + \Delta T_d \cdot r_d - (\Delta T_m + \Delta T_d)r_t, \\ &= \Delta T_m(1 - r_t) + \Delta T_d(r_d - r_t).\end{aligned}$$

And

$$\Delta D_p = \frac{\Delta T_m(1 - r_t) + \Delta T_d(r_d - r_t)}{r_d}. \quad (5)$$

This result is simply the sum of equations (1) and (3).

With respect to the potential net change in the money supply, we may write

$$\begin{aligned}\Delta M_p &= \frac{\Delta T_m(1 - r_t) + \Delta T_d(r_d - r_t) - \Delta T_m \cdot r_d - \Delta T_d \cdot r_d}{r_d} \\ &= \frac{\Delta T_m(1 - r_t - r_d) - \Delta T_d \cdot r_t}{r_d}\end{aligned} \quad (6)$$

Suppose that time deposits rise by \$200; of the total, \$50 come from a deposit of currency, and the remaining \$150 come from a shift out of demand deposits. We have the following balance sheet situation:

Assets	Liabilities
$A + 50$	$D - 150$
$\begin{bmatrix} R - 20 \\ E + 70 \end{bmatrix}$	$T + 200$

Potential expansion of demand deposits is \$350, and potential net expansion of the money supply is \$150. Suppose that there is the objective to set reserve requirements at such levels as will obviate all potential deposit expansion, leaving $\Delta M_p = -\Delta T$. Knowing the values of the shifting assets and given a value

for either of the reserve requirements, i.e., demand or time, we may determine the necessary value of the other.

We may restate the objective: the increase in required reserves must equal the increase in actual reserves, thus leaving excess reserves unchanged. Hence we write

$$\Delta R = \Delta A.$$

From our assumptions,

$$\Delta T_m \cdot r_t + \Delta T_d \cdot r_t + \Delta D \cdot r_d = \Delta T_m,$$

$$\Delta T_m \cdot r_t + \Delta T_d \cdot r_t - \Delta T_d \cdot r_d = \Delta T_m,$$

and

$$(\Delta T_m + \Delta T_d)r_t = \Delta T_m + \Delta T_d \cdot r_d.$$

Since $\Delta T = \Delta T_m + \Delta T_d$,

$$\Delta T \cdot r_t = \Delta T_m + \Delta T_d \cdot r_d,$$

and

$$r_t = \frac{\Delta T_m + \Delta T_d \cdot r_d}{\Delta T}. \quad (7)$$

In our illustration, with $\Delta T_m = 50$, $\Delta T_d = 150$, and $\Delta T = 200$, if $r_d = .5$, then $r_t = .625$.

Similarly, we could solve for r_d instead of r_t :

$$r_d = \frac{\Delta T \cdot r_t - \Delta T_m}{\Delta T_d}. \quad (8)$$

Illustrative combinations of r_t and r_d which will make $\Delta E = 0$ in this particular instance when ΔT stems from a reduction of both demand deposits and currency in circulation follow:

r_t	r_d
1.0	1.0
.7	.6
.625	.5
.4	.2
.25	0

Except with 100 per cent reserves against both types of deposits, it must be the case that $r_t > r_d$. Specifically, we may substitute $\Delta T - \Delta T_d$ for ΔT_m in equation (7) and rewrite the equation in the form

$$\Delta T \cdot r_t = \Delta T - \Delta T_d + \Delta T_d \cdot r_d,$$

$$\Delta T_d(1 - r_d) = \Delta T(1 - r_t).$$

Hence

$$\frac{1 - r_d}{1 - r_t} = \frac{\Delta T}{\Delta T_d}.$$

Since $\Delta T > \Delta T_d$,

$$1 - r_d > 1 - r_t,$$

and

$$r_t > r_d.$$

The economic content of this result is that r_t must be sufficiently large, given the ratio, $\Delta T/\Delta T_d$, not only to offset the reduction in required reserves stemming from the fall in demand deposits, but also to absorb into the required reserve category the entire increase in actual reserves stemming from the deposit of currency.

As a final elaboration, we can deduce the necessary reserve requirements for a "neutral" expansionary situation, i.e., the potential increase in deposits which exactly offsets the initial fall in the money supply, and thus $\Delta M_p = 0$. As before, knowing the value of either of the reserve requirements, we can determine the other. Since, in equation (6),

$$\Delta M_p = \frac{\Delta T_m(1 - r_t - r_d) - \Delta T_d \cdot r_t}{r_d},$$

$\Delta M_p = 0$ if

$$\Delta T_m(1 - r_t - r_d) = \Delta T_d \cdot r_t,$$

$$\Delta T_m - \Delta T_m \cdot r_t - \Delta T_m \cdot r_d = \Delta T_d \cdot r_t,$$

and

$$r_t(\Delta T_m + \Delta T_d) = \Delta T_m(1 - r_d).$$

Hence

$$r_t = \frac{\Delta T_m(1 - r_d)}{\Delta T}. \quad (9)$$

And, from equation (9),

$$\Delta T \cdot r_t = \Delta T_m - \Delta T_m \cdot r_d,$$

and

$$r_d = \frac{\Delta T_m - \Delta T \cdot r_t}{\Delta T_m} = 1 - \frac{\Delta T \cdot r_t}{\Delta T_m}. \quad (10)$$

Equation (9) can be written:

$$\frac{r_t}{1 - r_d} = \frac{\Delta T_m}{\Delta T}.$$

For a given value of $\Delta T_m/\Delta T$, the larger is r_t , the smaller must be r_d . Starting from initial values for all variables which will make $\Delta M_p = 0$, if r_d is reduced, R will fall by a smaller amount (and E will rise by a smaller amount) when demand deposits are shifted, but the demand deposit expansion coefficient will be increased. The latter influence predominates, so r_t must be increased as r_d is decreased in order to increase R (decrease E) sufficiently to keep $\Delta M_p = 0$. Continuing with our assumed values of $\Delta T_d = 150$ and $\Delta T_m = 50$, the following is illustrative of alternative combinations of reserve requirements which would make $\Delta D_p = \Delta T^6$:

r_t	r_d
.0	1.0
.1	.6
.125	.5
.2	.2
.2475	.01

If in response to the Federal Reserve's encouragement, the public is induced to increase its holdings of time deposits, excess reserves and hence potential expansion of demand deposits will probably rise. The potential expansion of demand deposits may be sufficient to increase potentially the money supply. To be sure, an increase in excess reserves is not a necessary concomitant of an increase in time deposits: appropriate reserve requirements would preclude (and appropriate open market operations would offset) such an impact on reserves. However, the reserve requirements which would prevent the increase in excess reserves bear small similarity to current requirements, and there appears to be no basis for anticipating a change to the necessary levels. And there is good basis for pessimism that open market operations would be at the proper time and in the proper magnitude—or in the proper direction!⁷ In any case, if either changes in reserve requirements or open market operations are necessary to prevent a potential net expansion of the money supply, it seems in order to suggest that such conventional tools of credit control at least reduce the desirability of encouraging the growth of time deposits as an anti-inflationary measure.

We have dealt in terms of *potential* deposit expansion.⁸ One could, of course,

⁶ We do not present a combination including $r_d = 0$. Since in the present problem $\Delta E > 0$ and it is required that $\Delta D_p < \infty$, it follows that $r_d = 0$ is an illegitimate value.

⁷ See, e.g., Lloyd W. Mints, "Monetary Policy and Stabilization," *American Economic Review, Papers and Proceedings*, May 1951, XLI, pp. 191-193. For later years, the reader can draw his own conclusion from "Use of Federal Reserve Instruments, July 1952-October 1954," *Federal Reserve Bulletin*, December 1954, pp. 1242-1244.

⁸ It should be recalled from footnote 3 that our restricted emphasis is on the money supply. Furthermore, to this point we have simplified the analysis by concentrating solely on the "mechanical" potentialities of banking operations on the money supply as affected by a shift by the public into time deposits from demand deposits and/or currency, other things remaining the same. It may be well to illustrate that the problem could be placed in a wider context.

Consider the situation prior to the action of the Federal Reserve in permitting higher interest rates on time deposits. Assume an equilibrium among the rate of interest, the levels of money income and of prices, the money supply, and the Cambridge K , such that the public is not inclined to make net shifts of assets from one form to another. Now, the equilibrium is upset by the banks paying higher rates on time deposits. At the prevailing

hope that the banks would not utilize the excess reserves newly created by the increase in time deposits. If the banks do not expand loans, the loan/deposit ratio would fall, and this ratio has been higher than banks (and bank examiners) desire. But one can scarcely expect banks to pay a higher interest rate to attract time deposits and then forego expansion on the basis of the excess reserves thus acquired. And, in fact, the loan/deposit ratio maintained its high level in 1957 despite the recession in the latter part of the year, accompanied conspicuously by a large run-off of inventories.⁹

level of income and prices, the public may be willing to hold less money, i.e., K falls, and money assets are shifted to time deposits. (This is not to say that income will not fall: no individual wishes or anticipates that income, either personal or national, will fall as a result of his adding to his time account, but if many individuals make the shift into time deposits an act of saving, i.e., if V does not rise sufficiently to compensate for reduced M , income will be reduced.) Next, the banks are enabled to expand demand deposits, although, as we have seen, such potential expansion may be more or less than the initial shift out of money. But K presumably is not a function solely of the interest rate, and it may change again in either direction. If K now rises—perhaps because of general anticipation that the Federal Reserve anti-inflationary policy will be effective—and in the same proportion as the money supply, still nothing happens to income. If, as seems likely, K does not fully compensate for the rise in money supply, income rises; if K overcompensates, income falls. Determinant answers in this realm of analysis must be based on arbitrary assumptions as to the nature of the K -function.

	Loans	Deposits other than interbank	Loans/Deposits
	(Millions of dollars)		
Central Reserve City Member Banks			
December 31, 1954	14,823	29,067	.510
December 31, 1955	17,982	30,492	.590
December 31, 1956	19,759	29,733	.665
December 31, 1957	19,954	30,035	.664
Central Reserve City and Re- serve City Member Banks			
December 31, 1954	38,809	83,419	.465
December 31, 1955	46,604	87,779	.531
December 31, 1956	51,542	88,379	.583
December 31, 1957	52,759	89,976	.586
All Member Banks			
December 31, 1954	60,250	141,269	.427
December 31, 1955	70,982	147,892	.480
December 31, 1956	78,034	151,051	.517
December 31, 1957	80,950	154,309	.525

Source: *Federal Reserve Bulletin*.

Governor Robertson refers (*loc. cit.*) to the present situation in which "New York City banks . . . have substantial time deposits consisting of foreign central banks' balances and other liquid funds . . . but have permitted their holdings of liquid assets to fall to exceptionally low levels. They now want to raise interest rates payable on such deposits to keep from losing them because they are so ill-prepared to meet the withdrawals."

II. SHIFTS FROM OTHER NON-MONEY ASSETS INTO TIME DEPOSITS

The foregoing analysis is concerned with the increase of time deposits involving a substitution by the public of time deposits for either already existing demand deposits or currency in circulation. However, higher interest rates paid by banks on time deposits might induce a substitution of time deposits for non-money, or "other," assets, i.e., assets other than demand deposits or currency and other than time deposits. This raises a number of possibilities, both inflationary and deflationary.

(a) Other assets could be sold to the banking system for demand deposits, and the demand deposits could then be shifted to time. Or other assets could be sold to the banks for cash, which, we may assume, would reduce actual reserves, and then the cash is deposited in time accounts, the cash replenishing actual reserves. In both cases, the net changes on the banks' balance sheet would be an increase in other assets and an increase in time deposits. The actual reserve position would be unaffected, but required reserves would rise, and excess reserves would fall. Specifically, we have

$$\Delta R = \Delta T \cdot r_t,$$

$$\Delta E = -\Delta T \cdot r_t,$$

and

$$\Delta D_p = \Delta M_p = \frac{-\Delta T \cdot r_t}{r_d}.$$

Here the increase in time deposits, originating from a shift out of other assets, is deflationary.

(b) Suppose that the other assets are disposed of, not to the banking system, but to the central bank. Funds thus acquired are deposited in time accounts. Required reserves rise, but actual reserves rise by a greater amount, thus increasing excess reserves. This increase in time deposits, resting on the open market purchases by the central bank of other assets from the public, is inflationary.

(c) However, suppose finally that when the public desires to liquidate other assets, neither the commercial banks nor the central bank absorb them. With the public striving to liquidate by shifting within itself ownership of non-money assets in exchange for money, the prices of other assets will be bid down, and interest rates will rise. Assuming that initially the interest rates on time deposits and the rates on other assets were in an equilibrium relationship, i.e., the public showed no net tendency to shift assets from one category to the other, the raising of time deposits rates upsets the equilibrium, and there is a shift into time deposits. The rise in rates on other assets continues presumably until a new equilibrium relationship is established. The new pattern of interest rates is at a higher level, and the higher rates may be deemed deflationary. (Interest rates would have an upward tendency also in cases (a) and (b), but presumably the pressure would be greater in case (c), where the public does not have the alternatives of shifting other assets to the banks or the central bank.) However, depend-

ing on whether the increased time deposits are acquired through a reduction in the public's holding of demand deposits or of currency, the potential net change in the money supply may be either negative or positive.

There is, then, no easy, mechanical line of causal sequence leading from higher rates on time deposits to increased saving to increased time deposits to deflationary pressures. There may be no increase in saving when time deposits rise but only a shifting out of old assets into a new one. And the increase in time deposits may or may not be deflationary.

PRODUCTIVITY, RELATIVE PRICES, AND INCOME DISTRIBUTION

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The contribution of modern macroeconomic analysis has been the effective demonstration that relative prices alone do not determine the level of economic activity. This proposition is by now so thoroughly accepted by economists that much serious and uncontroversial work is being directed at the integration of the old and the new, of price theory and the theory of income determination.¹ Despite the evidence of this post-Keynesian trend of reconciling the theories of resource allocation and income determination, there still exists a tendency for some economists to extend the Keynesian "revolution," to widen the alleged chasm between pre-Keynesian and post-Keynesian thought. According to a modern school of thought, of which Dr. Kaldor might be taken as representative, not only do movements in relative prices not account for changes in the level of economic activity, but they play a negligible role, at best, in accounting for changes in the distribution of income.² Thus the familiar role of the price system in distributing the joint product of cooperating agents of production is challenged by this modern variant of macroeconomic analysis. The acceptance of this point of view would probably imply the rejection of price theory as obsolete, because it is difficult to see how a system of relative prices could allocate resources and, at the same time, have nothing to do with the distribution of income among resource owners.

THE CHALLENGE TO TRADITIONAL THOUGHT

In Kaldor's approach to the theory of income distribution the familiar concepts of cost and productivity play no apparent determining role. Rather the distributive shares of labor and property income are determined exclusively by aggregate savings and investment propensities. Not only is there no apparent relation between these savings and investment propensities and the productivity concepts, except in a tautological sense, but Kaldor explicitly denies that marginal productivity has anything to do with determining the relative income shares of labor and property.³ This surprising conclusion, if correct, would ap-

¹ For an example of representative studies cf. Sidney Weintraub, *A New Approach to the Theory of Income Distribution* (Philadelphia: Chilton Co., 1958) and *idem.*, "The Micro Foundations of Aggregate Demand and Supply," *Economic Journal*, September 1957; also L. E. Fouraker, "The Multiplier and Monopolistic Competition," *Southern Economic Journal*, October 1956.

² Cf. Nicholas Kaldor, "Alternative Theories of Distribution," *Review of Economic Studies*, February 1956, and *idem.*, "A Model of Economic Growth," *Economic Journal*, December 1957. For a similar analysis of the role of relative prices in income distribution see Joan Robinson, *The Accumulation of Capital* (Homewood, Ill.: Richard D. Irwin, 1956).

³ "... it is the choice among a range of techniques requiring more or less capital (and more or less labour) per unit of output which alone makes it possible (theoretically) to assign

pear to drive a complete wedge between the theory of resource allocation, on the one hand, and the theory of income distribution, on the other. What data are relevant to the explanation of the level of a certain industry's output and its input of various labor services would appear to be totally irrelevant to the explanation of the share of wages in the national income. Moreover, since Kaldor's model, on a superficial view, is consistent with, or not contradicted by, empirical evidence of secular stability in distributive shares, the familiar propositions of allocation theory immediately become suspect. The reason for suspicion is simple. Can a system of relative prices allocate if it does not distribute? The writer will attempt to demonstrate, however, that Kaldor's model, if corrected for internal inconsistencies, will not support his contention that distributive shares are determined independently of marginal productivities; indeed the writer will show that his assumptions imply a frozen pattern of resource allocation. Only then will relative prices not influence income distribution.

THE KALDOR MODEL

According to Kaldor the relative division of the national income between wages and profits is a function of the propensities of wage earners and entrepreneurs to save and the ratio of investment to income. Given these savings propensities, the relative share of profits is directly proportional to the ratio of investment to income, while the wage share is inversely proportional.⁴ Thus the greater is the ratio of investment to income, the larger will be the profit share and the smaller will be the wage share, provided that the aggregate propensity to save is constant. Conversely, given the ratio of investment to income, the larger is the aggregate propensity to save, the smaller will be the profits share and the larger will be the wage share. Thus, under conditions of full employment, with the investment-income ratio constant, an increase of wage earners' savings propensities will actually result in a higher real wage and a larger wage share. If we can make any identification of entrepreneurs with the banking authorities, we might even suggest that the institution of consumer credit is an ingenious means of reducing real wages and raising the profits share at the expense of wage earners.⁵

The critical assumptions in this model are 1) that price flexibility ensures stability of real income at full employment and 2) that the investment-income ratio is invariant with respect to changes in the savings propensities. From this it follows that a change in savings propensities will merely alter relative income

specific marginal productivity shares to the factors of production, Labour and Capital, in the long run. Our model, however, shows that for the system as a whole, the share of wages and of profits, and the rate of profit on capital is determined quite independently of the principle of marginal productivity." *"A Model of Economic Growth,"* p. 602.

⁴ Profits and wages are not defined rigorously in Kaldor's presentation. The wage share would apparently include salaries and supplements to wages and salaries. Profits are implicitly defined as the difference between aggregate value added and wages as defined.

⁵ By a different method Weintraub has reached a similar conclusion. "As households (of wage earners) go into debt to improve their current living standards, the results can only be unfavorable (relatively) to the wage-earning group as a whole compared to profit recipients." *A New Approach to the Theory of Income Distribution*, p. 91.

shares without producing a change in the level of real income or a change in the ratio of investment to income. Likewise the investment-income ratio can change without producing compensating changes in the savings propensities or in the level of economic activity. The main justification for the full-employment assumption, according to Kaldor, is that this is reasonable in a long-run growth model, in which fluctuations in the level of employment are not significant. Thus if the ratio of investment to income rises, the relative share of profits will rise and that of wages will fall, provided that the marginal propensity to save of entrepreneurs exceeds that of wage earners.⁶ This rise in the investment-income ratio is treated by Kaldor as a simple rise in the *level* of investment and, hence, as a rise in the level of aggregate money demand. This will create upward pressures on prices, raise profit margins, and raise real savings at the expense of real consumption. With constant savings propensities, and no rentier class to be adversely affected by the rising prices, this must mean a transfer of real income from wage earners to corporations. Alternatively, a reduction in the investment-income ratio, treated by Kaldor as a simple drop in the level of investment and aggregate demand, will lower prices and profit margins and increase real consumption at the expense of real savings. Given the difference in savings propensities, there must have been a transfer of real income from entrepreneurs to wage earners or the drop in real savings would not have occurred. Kaldor thus concludes that "capitalists earn what they spend, and workers spend what they earn."⁷ Obviously this follows only if the change in the level of investment spending produces the required change in the investment-income ratio.

According to Kaldor, the only possible role for marginal productivity to play in this analysis is that of altering the capital intensity of production, and hence the investment-income ratio, in response to changes in the profits share. If the aggregate capital coefficient is sufficiently sensitive to changes in the profits share so as to alter the investment-income ratio, then the independent role of the latter in the determination of relative shares would have to be abandoned; that is, there would be a feedback from income distribution to the investment-income ratio. But he asserts that technical innovations are "far more influential"

⁶ Let Y = national income, W = wages, Pr = profits, S = savings, I = investment. Kaldor's model is as follows:

$$(1) \quad Y = W + Pr$$

$$(2) \quad S = I$$

$$(3) \quad S = S_w + S_{pr}$$

$$(4) \quad S_w = s_w W$$

$$(5) \quad S_{pr} = s_{pr} Pr$$

$$(6) \quad I = s_{pr} Pr + s_w W = s_{pr} Pr + s_w (Y - Pr) = (s_{pr} - s_w) Pr + s_w Y$$

Thus

$$(7) \quad Pr/Y = 1/(s_{pr} - s_w) I/Y - s_w/(s_{pr} - s_w)$$

⁷ "Alternative Theories of Distribution," p. 96.

on the optimum capital intensity than are price relationships.⁸ Thus relative prices are cast out along with marginal productivity as unimportant in the determination of income distribution. This remains a function of the investment-income ratio and of the propensities to save.

THE IMPLICATIONS OF CONSTANCY IN RELATIVE SHARES

If the optimum capital intensity is invariant with respect to changes in relative prices, and if the previous conclusions are accepted, then a growth in income will be accompanied by constant relative shares. With the investment-income ratio constant, real wages will rise in proportion to the rise in per capita output.⁹ This conclusion is difficult to interpret, however. A constant ratio of capital to labor, or capital intensity, requires that the growth of the capital stock be proportional to the growth of the labor force if the maintenance of full employment is assumed. But the growth rate of the capital stock is the integral of the growth rate of investment and, as such, would have a power index greater by one than the growth rate of investment.¹⁰ This would mean that the capital stock and the labor force would both increase more rapidly than income, with the result that wages per man and profits per dollar of capital would decline. The writer is not certain if Kaldor meant that the real wage per man is expected to rise indefinitely or only for a limited period of time, but what he should have meant is that the hypothesis of constant relative shares, as interpreted within his model, implies a tendency for the rate of profit and the rate of wages to fall. How long such growth could continue with a falling rate of profit is an interesting question, but more important is the question of how well this model "explains," or is consistent with, the empirical evidence of secularly stable relative shares. The evidence of Kuznets, Johnson, and Phelps-Brown and Hart on this question does not indicate any significant decline in the rate of profit and points to a rather substantial rise in real wage rates for both the United States and the United Kingdom.¹¹ Thus Kaldor's theory appears to be consistent with the evidence of stability of relative shares but inconsistent with the data on variation in wage rates and rates of profit. Consequently his hypothesis could be rejected because of the inaccuracy of its predictions, unless one is prepared to interpret historical growth rates of income and investment as exponential. This theory deserves more than a simple rejection, however, because it presents a sharp

⁸ *Ibid.*, p. 98.

⁹ If the wage earners' marginal propensity to save can be abstracted from as insignificant, then Kaldor's basic equation becomes

$$Pr/Y = 1 - W/Y = 1/s_{pr} \quad I/Y = 1/s_{pr} \quad dY/Y \quad I/dY.$$

¹⁰ If the growth rate of investment is an exponential, however, this conclusion would not hold, since the integral of an exponential function is proportional to the function itself. See Franz Gehrels, "Factor Substitution, Consumer Wealth, and Growth Stability," *American Economic Review*, September 1957, p. 631.

¹¹ Simon Kuznets, *National Income and its Composition, 1919-38* (New York: National Bureau of Economic Research, 1941), vol. I; D. Gale Johnson, "The Functional Distribution of Income in the United States, 1850-1952," *Review of Economics and Statistics*, May 1954; E. H. Phelps-Brown and P. E. Hart, "The Share of Wages in the National Income," *Economic Journal*, June 1952.

challenge to familiar ways of thinking about distribution. Moreover, this line of thought is sufficiently representative of much post-Keynesian growth theory that an analysis of its shortcomings is instructive.

DIFFICULTIES IN THE MODEL

The analysis raises several difficulties which Kaldor has not attempted to resolve. In the Keynesian system, even under conditions of full employment, the investment-income ratio is not independent of savings propensities. Rather it is functionally related to them through the operation of the multiplier. The original Keynesian hypothesis was not that the investment-income ratio was independent, but it was that the *level* of investment was independent of the savings propensities. Moreover, if the savings propensities of the different functional income receivers are unequal, the multiplier and the ratio of investment to income will have different values for each pattern of income distribution. In order to demonstrate these propositions the writer will use a simple Keynesian model based on the assumptions of stable savings propensities and full employment, that is a zero elasticity of output with respect to aggregate demand.

In our model let P represent the general price level, let O represent real output, let w represent the money wage rate, let N represent the level of employment of labor, let e_p be the elasticity of prices with respect to aggregate demand, let e_o be the elasticity of output with respect to aggregate demand, and let a , b , g and h be parameters in the savings functions.

$$(1) S/P = a + (1 - b)Y/P$$

$$(2) S = aP + (1 - b)Y$$

$$(3) dS/dY = adP/dY + (1 - b) = aP/Y(dP/dY Y/P) + (1 - b) \text{ where } dP/dY Y/P = e_p$$

$$(4) \text{ Since } Y = PO, \text{ and } dO/dY Y/O = e_o, \text{ then } e_p + e_o = 1$$

$$(5) dS/dY = e_p aP/Y + (e_p + e_o)(1 - b) = e_p(aP/Y = 1 - b) + e_o(1 - b) = e_p S/Y = S/Y \text{ since } e_o = 0 \text{ and } e_p = 1 \text{ by assumption}$$

$$(6) dY/dI = 1/S/Y$$

$$(7) \text{ Since } I/Y = S/Y, \text{ it necessarily follows that } I/Y = 1/dY/dI$$

$$(8) S = gwN + h(Y - wN) = (g - h)wN + hY$$

$$(9) S/Y = (g - h)wN/Y + h = I/Y$$

The verbal interpretation of the model is rather simple.¹² If real saving is a linear function of real income, then saving in money terms is an increasing function of money income and a decreasing function of the price level. As a consequence of the assumption of full employment, the elasticity of the general price level with respect to aggregate demand is unity. This implies that the

¹² This model is adapted from Myohei Shinohara, "The Multiplier and the Marginal Propensity to Import," *American Economic Review*, September 1957.

marginal propensity to save is equal to the average propensity to save when the numerator and denominator of both expressions are measured in nominal money terms. Thus the money-income multiplier is the reciprocal of the average and marginal propensities to save. Since investment and saving are equal by definition, it follows that the ratio of investment to income is equal to the average propensity to save which, under the strict conditions of full employment, is equal to the reciprocal of the multiplier. Thus the value of the investment-income ratio is functionally dependent upon the values assigned to the propensities to save. Further if the marginal propensities to save of wage earners and entrepreneurs are different from one another, the distribution of income must be included as a term in the aggregate saving function. From this it follows that the ratio of investment to income and the money-income multiplier are functionally related to the distribution of income as well as to the individual savings propensities.

Thus we are entitled to conclude that the investment-income ratio cannot be invariant with respect to the savings propensities of wage earners and entrepreneurs, and that this ratio can be independent of the distribution of income only if the marginal propensities to save of the two functional income groups have identical values. It is interesting to note that the only condition under which the investment-income ratio could be invariant with respect to the distribution of income is the one condition which in Kaldor's formulation prevented the model from being determinate. In his formulation, the two marginal propensities to save could not have identical values; yet he concluded that the investment-income ratio was invariant with respect to the distribution of income when the savings propensities differed in value.

As a consequence of the essential dependence of the investment-income ratio on the distribution of income, much of Kaldor's argument is pure tautology. Certainly the conclusion that a changing investment-income ratio will alter the share of profits in the same direction is tautological, because, with constant savings propensities, a change in the investment-income ratio can only occur if the share of profits changes. A change in the investment-income ratio, then, *is* a change in the distribution of income if the savings propensities are constant, and no causal inference can be drawn from a definitional relation. That the inference of causation is not only illegitimate but raises difficult questions of interpretation can be demonstrated from a closer analysis of the processes of "forced saving" and "forced dissaving" under conditions of full employment. Let there be an autonomous increase in the level of investment spending financed (say) by bank credit. Kaldor would contend that this would result in a rise in the investment-income ratio because of flexible prices. Surely the price level would rise, but so would the wage level. Can we conclude that the price level will rise relative to the wage level so that there will be a rise in profit margins and real savings? This can be concluded only if one of two conditions hold. First there may be some ceiling, such as may be imposed by direct controls over wages, which prevents the rise in wage rates. Otherwise the attempt by entrepreneurs in the capital-goods industries to acquire more

labor would be frustrated by a rising money demand for consumer goods to which higher wage payments give rise.¹³ The assumption of a lag of wages behind other prices does not save the argument, because not only is this a *deus ex machina* but such a lag has no influence on equilibrium values if the model is stable at full employment. However if resort is not had to direct controls, the forced-saving conclusion can be deduced if an additional premise is made concerning inter-industrial differences in the ratio of wages to profits, or in the relative share of wages. If the money wage rate is equal to the value of labor's marginal physical product in each industry, it can be shown that the relative share of wages in each industry is equal to the ratio of the marginal to the average physical product of labor in that industry.¹⁴ If the ratio of the marginal to the average product of labor is less in the capital-goods industries than it is in the consumer-goods industries, then the increase in the money demand for capital goods will shift the aggregate income distribution in favor of profits at the expense of wages. If the marginal propensity to save of entrepreneurs is greater than that of wage earners, then real saving will rise, and the real demand for consumer goods will decline. Thus a rising level of investment expenditures may produce the desired change in the composition of output and a shift in the distribution of income from wage earners to corporations, but only if the relative share of wages in the value of capital-goods output is greater than in the value of consumer-goods output. The opposite shift, holds, *mutatis mutandis*, for a falling level of investment expenditure, provided that the model is stable at full employment.

This analysis supports Kaldor's thesis to the extent that the necessary difference in the inter-industrial income composition does exist. But this means that relative prices and marginal productivity have re-emerged as pivotal concepts for the explanation of changes in income distribution along with, to be sure, the savings and investment propensities. If technology and relative prices were such that there were no inter-industrial differences in income composition, and *a fortiori* if labor's relative share were greater in the capital-goods industries, a rise in the investment-income ratio would be impossible if

¹³ This is a necessary consequence of the assumption of full employment, since the average and marginal propensities to consume and save are equal when measured in nominal money terms.

¹⁴ If $w = dQ_i/dN_i P_i$ where the subscript refers to the i th industry, then $wN_i/P_i Q_i = dQ_i/dN_i N_i/Q_i = MPP_i/APP_i$. Further the relative share of labor in the national income is a weighted average of the relative share of labor in all industries; the weights are, of course, the relative importance of each industry's value added in the national income. Formally this can be demonstrated as follows:

$$\begin{aligned} wN/Y &= wN_1/Y + wN_2/Y + \dots + wN_n/Y \\ &= wN_1/P_1 Q_1 P_1 Q_1/Y + \dots + wN_n/P_n Q_n P_n Q_n/Y \\ &= \sum_{i=1}^n MPP_i/APP_i P_i Q_i/Y \end{aligned}$$

These results were arrived at by Weintraub. Cf. *A New Approach to the Theory of Income Distribution*, pp. 51-56.

the individual savings propensities were stable. Indeed, given the assumption of a passive monetary policy, Kaldor's model is stable at full employment only if labor's relative share is less in the capital-goods industries than in the others. If the reverse were true, and entrepreneurs were determined to increase the level of real investment, the real demand for consumer goods would rise relative to the real demand for capital goods, and the investment-income ratio would fall. The result would be unexpected disinvestment accompanied by accelerating inflation. Moreover, the attempt to reduce real investment would also fail unless labor's relative share were less in the investment than in the consumption sector. The lowered level of investment spending would reduce the aggregate relative share of wages and raise the aggregate propensity to save. The investment-income ratio would rise continuously, accompanied by an accelerating deflation of prices, as long as entrepreneurs continued the attempt to reduce real investment.

CONCLUSIONS

Thus this modern macroeconomic argument, purportedly dispensing with the concept of marginal productivity for the explanation of income distribution, depends for its internal consistency on particular patterns of relative prices and particular relations between the marginal productivities of labor and capital. Such an argument cannot, therefore, be used to deny the relevance of marginal productivity to an analysis of functional distribution. The stress on the importance of savings and investment propensities is undoubtedly correct, since the determination of relative shares is largely a macroeconomic problem. Yet an overstatement of their exclusive importance, accompanied by a neglect of the relative price and productivity aspects of the distribution problem, can only lead to error as the above analysis has demonstrated. Kaldor's error was largely due to his neglect of the influence of relative prices on the composition of output. It is not difficult to imagine a constant pattern of income distribution when the composition of output between capital goods and consumer goods is frozen, and this is essentially what Kaldor's theory amounts to. In order to demonstrate that changes in relative prices do not affect income distribution, he has implicitly assumed that they have no influence on the allocation of resources. The conclusion is simply that a system of relative prices which does not distribute income does not allocate resources either, and one which does allocate resources also distributes income.

SELDEN ON INCOME VELOCITY

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I

In "Monetary Velocity in the United States," Professor R. T. Selden has made what will doubtless rank as an important contribution to the literature on income velocity.¹ The general purpose of his essay is to discover how income velocity has behaved in the United States and to isolate causes for variations in ratios of income to the quantity of money.² With this general intent no student will quarrel. Every reader will welcome also the efficient manner in which Professor Selden handles the material considered. Yet, though the items included are important, some needed and available ingredients are omitted. Omission of these leads to some conclusions that are at least questionable.

II

This section summarizes Selden's argument. It first presents his definition of income velocity, his definition of the demand for money, the list of factors causing shifts in this schedule, and the results of his chief statistical effort, which is primarily concerned with the period 1919-51 as a whole. Next follow a summary of cyclical movements in velocity ratios during 1919-51 and Selden's explanation for each movement. Third, Selden's position on long-run movements of velocity ratios during 1839-1929 is set forth.

A. The income velocity of money is indicated by the ratio of national income to the quantity of money. As denominator of his velocity ratio, Selden uses the sum of outside currency and adjusted deposits including United States Government holdings of Treasury cash and bank deposits. As numerator he employs net national product or national income. The "best possible estimates" of income velocity (V_v) result, though the particular definition of V_v selected "is less important than an awareness of the consequences of using one definition rather than another."³

Selden wishes to run analysis in terms of a demand schedule for money in which the quantity of money demanded is a function of the cost of holding money. A demand schedule for a consumer good is constructed on the assumption that incomes, tastes, expectations, and prices of other things are fixed or that these change only in such manner as not to induce shifts in demand for the item under consideration. What are the analogues for investigation of this demand schedule for money?

1. Income. Just as in the case of the demand for a consumer good income

¹R. T. Selden, "Monetary Velocity in the United States," in M. Friedman, editor, *Studies in the Quantity Theory of Money* (University of Chicago Press, 1956), pp. 179-257.

²*Ibid.*, p. 180.

³*Ibid.*, pp. 186, 238.

is assumed constant in drawing up the demand schedule for money. For changes in income, Selden hypothesizes the existence of a real income effect and thinks that he finds a bit of evidence to indicate that this income effect has slight positive elasticity, or in usual terminology, an income elasticity greater than unity.⁴

2. Tastes. In monetary analysis, "tastes" include transaction and precautionary motives for holding money and the real balance effect.

3. Expectations. "Expectations" is very much a Mother Hubbard concept used to cover all specific and general anticipations which lead people to spend or not.

4. The prices of other things. For purposes of Selden's essay, this expression refers to the cost of money substitutes defined to consist of liquid assets, negotiated options to borrow, and access to the credit market. For Selden, bond yields minus rates on prime commercial paper (4 to 6 months) measures the cost of money substitutes.

In his statistical study, Selden does not attempt to measure the price elasticity of the demand for money. Instead he correlates income velocity with the cost of holding money without correcting for "other things." In order to test the significance of the cost of holding money during 1919-51, the period for which data are best, he correlates velocity ratios with bond yields, earnings-price ratios, dividend yields, bond yields minus yield on money, earnings-price ratios minus yield on money, dividend yields minus yield on money, the rate of change in the price level minus yield on money, and total yields on common stocks minus yield on money. For the period, which included the Great Depression, two wars, rapid changes in the role of government, times of extensive deficit financing by the Federal Government, price controls, and the like, simple and multiple correlations are generally low. These statistical results do not rule out the possibility that objectively measurable "cost of holding money" may have been important in other periods or even during parts of the period from 1919 to 1951.

Next, in an effort to evaluate the influence of the prices of "other things" during 1919-51, Selden correlates income velocity and bond yields minus rates on 4-6-month commercial paper. The fairly strong negative coefficient of correlation which results indicates either that a decline (rise) in this cost resulted in a rise (fall) in velocity or that changes in expectations or some "other thing" had contrary influences upon the cost of money substitutes and income velocity.

Selden's third major effort to account statistically for computed variations in income velocity involves a comparison of movements of transaction and income velocities. During the period from 1919 to 1929, a rise in the relative quantity of money involved in financial circulation, aided perhaps by increasing disintegration of firms, caused transaction velocity to rise and income velocity to drop.⁵ During 1933-43 the relative decline in financial payments was probably the main factor causing convergence in transaction and income

⁴ *Ibid.*, pp. 205-207, 221, 230.

⁵ *Ibid.*, pp. 222, 224-225.

velocities, and "On balance, it is likely that convergence contributed to both the rise in V_v and the fall in deposit turnover."⁶ During 1943-46 relative price movements were probably the major factor contributing to divergence, and a relative rise in financial transactions added its bit.⁷

B. The period 1919-51 is chiefly interesting because of its short-run movements of V_v . In his examination of cyclical variation in income velocity, Selden like many others finds that income velocity generally rises during cyclical expansion and declines in periods of contraction. During both world wars his series rose initially, declined during years of fuller military effort, and moved upward during the early postwar period. To explain these changes Selden uses both statistical and nonquantitative data.

From 1919 through 1929 there was a moderate decline in Selden's V_v . This development Selden attributes to "rises in financial payments relative to income, cost of money substitutes, and real income per capita, and the fall in cost of holding money."⁸

Selden finds interpretation of declines in V_v during 1929-33 unusually difficult and suggests that a true explanation would require an examination of the business cycle itself. Some measures of the cost of holding money indicated decline; others pointed to upward movement. Cost of money substitutes rose. Uncertainty and adverse expectations overwhelmed the income effect.

During 1933-43 V_v rose steadily except for drops in 1938 and 1943. Selden thinks that these movements are probably the net results of a reduction in the relative importance of financial transactions since the 1920's, some vertical integration, rising income and the income effect, some decline in the cost of holding money, and improvement in the state of expectations.

During 1943-46, V_v declined. According to Selden, changes in the cost of holding money, the income effect, and changes in the cost of money substitutes had doubtful influences during this period. Instead, falls in V_v resulted from increases in financial transactions, rises in the relative importance of governmentally owned deposits, which at that time had a transaction velocity below that of balances held by business firms, strengthening of the precautionary motive because of the frequency of movement about the country and the fear of unemployment upon demobilization, and price and rationing controls which removed some of the usual alternatives to holding money.

During 1946-51, V_v rose except for a drop during 1949. There was no patterned relationship between the velocity of money on one hand and the cost of holding money on the other. More importance attaches to the fall in the cost of money substitutes, reduction in the role of government, removal of controls, improvement in job prospects, and return to authentic pricing.

C. The period 1919-51 was dominated by short-run movements, so that secular influences cannot be readily untangled, but a great decline in V_v occurred during 1839-1919. Statistical data for that period are, of course, not

⁶ *Ibid.*, p. 227.

⁷ *Ibid.*, p. 228.

⁸ *Ibid.*, p. 225.

as good as those since that time; but such as they are, they suggest that "Cost of holding money may have played an important part in the decline of V_v before 1899, but we may conclude that it was a minor factor from 1899 to 1919."⁹ A rise in transactions relative to income contributed also, but apparently, according to Selden, the income effect upon the demand for money induced by rising real income per capita was the most important and abiding factor responsible for the prolonged decline in V_v .

III

Selden's study, interesting and valuable as it is, has shortcomings.

A. Selden has added his name to the list of students who have found that with important exceptions the income velocity of money tends to decline during periods of cyclical contraction and to rise during expansion. Like many others he does not explicitly note that this result is in part due to the institutional nature of the monetary and banking system. As a limiting case income velocity might not vary with the stages of the business cycle. Such might be so if money originated solely as a result of short-term borrowing from the banks and if most firms and individuals were in debt to these institutions. In these circumstances, income falls (rises) could be accompanied by proportionate drops (increases) in the quantity of money, so that income velocity need not change. Contraction would bring net reduction of debts to the banks; expansion would bring increased borrowing proportionate to the expansion in income. If, on the other hand, many business firms and individuals obtain money without going into debt to the banks, cyclical declines (expansions) are likely to be accompanied by falling (rising) velocity ratios. During contraction some money rendered redundant by reduction in income passes into the possession of those who do not owe the banks and who, because of unfavorable outlook, elect to retain their savings in monetary form. Later, when improvement gets under way, some expansion can be financed by dishoarding, so that income velocity may rise. Until proof to the contrary is forthcoming, it is reasonable to assume that the magnitude of undulations in velocity ratios will vary inversely to the percentage of business firms and householders who are in debt on short term to the money-creating institutions.

B. Selden rightly warns that, if an investigator omits time deposits from the money stock, these must be somehow considered in the analysis, for they are close money substitutes.¹⁰ Yet, by ignoring the contrary warning, he apparently suggests that one who defines money as inclusive of time deposits has no obligation to investigate velocity ratios for which time deposits are omitted from the denominator. It is correct procedure to make interpretations cover as broad a field as possible, and for this reason presumption lies in favor of including time deposits as money, but in some ways exclusive reliance upon this aggregate leads to error.

In the demonstration that sole reliance upon V_v is inappropriate, some ab-

⁹ *Ibid.*, pp. 220-221.

¹⁰ *Ibid.*, p. 237.

abbreviations are desirable. Let money defined to include time and savings deposits be denoted by M and that excluding them be indicated by M_1 . Selden's symbol, V_y , serves well for income velocity ratios for which M is the denominator; let income velocity ratios with M_1 as denominator be denoted by V_x .

It will be recalled that Selden attributes the decline in V_y during 1919-29 in good part to "rises in financial payments relative to income. . . ." In contrast to the decline in V_y during this period, V_x showed no such movement.¹¹ The decline in the V_y series resulted largely from the rise in the ratio of time and savings deposits to M from 37.3 per cent in 1919 to 51.6 per cent in 1929.¹² That balances used for financial payments were kept largely in the form of time and savings deposits is unlikely. In fact, time and savings deposits are not generally held for purposes of making planned outlays of any kind.¹³ Though during 1919-29 financial payments rose in comparison to income, they apparently did not tie up relatively larger amounts of money, but were provided for by rises in transaction velocity. Since increasing financial transactions did not account for the decline in V_y during 1919-29, it is doubtful to what extent they affected it during subsequent periods. Selden's reluctance to consider anything less inclusive than M prevented discard of a factor which, in some cases at least, was not significant.

C. V_x has something to contribute also in analysis of long-term trends in V_y . As indicated in Section II. C., the size of V_y dropped greatly during 1839-1919. While V_y declined during 1899-1929 by about 18 per cent, V_x evidenced no trend up or down.¹⁴ This divergence came about because of the rise in the ratio of time deposits to M from 31.8 per cent in 1899 to 51.6 per cent in 1929. Apparently savings deposits rose faster during 1839-99 than did M_1 ,¹⁵ but apparently V_x as well as V_y declined during the last six decades of the 19th century. Selden interprets the decline in V_y as largely the result of the operation of an income elasticity of the demand for M which is in excess of unity. The fact that V_x tended to reach a maximum and then to level off indicates that income elasticity for M_1 is not greater than unity at all levels of income

¹¹ J. W. Angell, *Investment and Business Cycles* (New York: McGraw-Hill Book Company, 1941), pp. 337-338; A. G. Hart, *Money, Debt, and Economic Activity* (New York: Prentice-Hall, 1948), p. 168.

¹² Computed by dividing total time and savings deposits as contained in Federal Reserve publications by M .

¹³ See W. Welfing, "Some Characteristics of Savings Deposits," *American Economic Review*, 1940, XXX, pp. 752-753. Professor Welfing deals primarily with deposits in mutual savings banks in New York State. He notes that, though large deposits are largely inactive, a large part of the small percentage of these large accounts which are withdrawn in a year's time is used to buy stocks and bonds or to retire debts (*ibid.*, pp. 748-749). See also J. M. Keynes, *A Treatise on Money* (London: Macmillan and Co., 1930), I, pp. 37-38, 248-257. Note that Keynes argues that savings deposits tend to increase (decrease) with the increase (decrease) of bearishness though the correlation is imperfect. Bearishness was not characteristic of 1929.

¹⁴ R. T. Selden, *op. cit.*, p. 252; J. W. Angell, *op. cit.*, pp. 337-338.

¹⁵ R. T. Selden, *op. cit.*, p. 257. Thus, deposits in savings banks were 5.19 per cent of M in 1839; 18.17 per cent in 1859; and 29.26 per cent in 1889.

and suggests that even this elasticity of the demand for M may diminish as income rises. In this connection it is noteworthy that in 1951 V_v climbed back to its 1929 level.

D. The explanation of the decline in V_v during 1839-1929 does not require an income elasticity of demand which exceeds unity for any level of income. Other factors were certainly operative. As Selden indicates, the rise in transactions relative to income was of importance. This rise came from several sources. At least since early in the 19th century there has occurred an increase in the proportion of output passing through the market economy. Since all ratios purporting to show a decline in V_v are based upon income data inclusive of imputed income, these have a downward bias from this source. Once a majority of the gainfully employed in the United States were farmers, largely self-sufficient, and an economy of such farmers is highly integrated vertically. With secular decline in agriculture and rise in the importance of commercial farming came disintegration of firms. To some extent, a third cause of the rise in the volume of transactions was the growing importance of financial transactions. This factor may well have had more influence secularly than during cycles of the 20th century.

In conjunction with rising relative importance of transactions, an income elasticity of more than unity is not prerequisite for decline in V_v , particularly if people in a given set of circumstances have a demand for balances such that the desired ratio of balances to income cannot be satisfied at once or even in a year or so. Even if income remains constant, accumulation of these real balances will depress V_v . Capacity to acquire desired balances may be limited by lowness of income and the existence of more attractive short-run alternatives. In addition, throughout much of the 19th century Americans may have been hindered by failure of the monetary and banking system to provide a suitable medium for accumulation. Many people must have been reluctant to build up balances of money created by wildcaters.

E. Income velocity ratios are sometimes used in estimating prospective changes in income and prices which can be brought about without increases in the monetary stock. By 1951 V_v had recovered its 1929 level. If in 1951 one were inclined to think further rises in prices and income could not be forthcoming without an expansion in M , subsequent events have proved him wrong. The likelihood of erroneous prediction could have been reduced by examination of V_x , for, though it rose from a low of 1.61 in 1946 to 2.44 in 1951, it was still far below its 1929 level of 3.58.¹⁶

F. Finally, factors which according to Selden account for changes in V_v would be interpreted by many of his forerunners as accounting primarily for variations in the percentage of money in hoards. Some readers may wonder if Selden regards his findings as consistent with this position of his predecessors.

¹⁶ Values for V_v have been computed by dividing net national product (U. S. Department of Commerce, *National Income*, 1954 ed., a supplement to the *Survey of Current Business*, pp. 164-165) by Selden's M minus adjusted time and savings deposits as furnished in Federal Reserve publications.

IV

This note has attempted two tasks: to summarize Selden's essay and to indicate what this reviewer believes to be inadequacies. It argues that shortcomings originate in failure (1) to consider the importance of the manner in which money originates, (2) to consider velocity ratios using as denominator a monetary aggregate excluding time and savings deposits, (3) to give adequate attention to alternative explanations of long-run declines in his velocity ratios, and (4) to face clearly the question of whether or not his results are consistent with the findings of those who have studied velocity in terms of active balances and hoards.

SMALL AREA POPULATION RESPONSE TO FULL EMPLOYMENT*

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Despite the importance placed upon the need for urban full employment in a solution to the South's low income problem, we are still in considerable ignorance as to the precise demographic mechanisms which come into play in its solution and the degree to which full employment bears upon the problem. These matters are particularly important with respect to the agricultural sector, in which unemployment conventionally defined, does not occur, and with respect to areas located near a developing metropolis.

A twenty-four county case study area surrounding Memphis¹ provides a theater for testing a number of hypotheses aimed to provide more precise knowledge of the relevance of full employment to levels of both industrial and agricultural development within a Southern area of persistently low agricultural incomes. An earlier study found for 1940-50 that county population adjustments were selective and income-equilibrating with respect to income, race, level of industrial development, and residential sector. For the agricultural sector, however, these adjustments were found to be income-disequilibrating.² The present study considers various demographic data with a view to determining (a) the relationship between such data and the level of economic development, and (b) the relevance of full employment in solving the low-income problem in Southern agriculture. Specifically, this paper considers the following hypotheses: (1) migration operated selectively with respect to (a) race, (b) residential sector, (c) age, (d) sex, and two measures of economic development, (e) agricultural development, and (f) industrial development in an unemployment decade³ as well as in a full employment decade, but (2) the magnitude of such selective differences was greater during full employment.

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¹ Readers will find a description of the area's characteristics, including a complete listing of counties, in my "Migration and Factor Adjustment in Lower Mississippi Valley Agriculture: 1940-50," *Journal of Farm Economics*, November 1956, XXXVIII, pp. 1024-1042.

² *Ibid.*

³ Census data, used as principal source material herein, conveniently, although somewhat imperfectly, separate the 1930-50 period into a decade of unemployment and a decade of full employment. I arbitrarily considered five per cent unemployed as the limit of unemployment in a "full employment" economy. Although it is impossible with the available data to separate specifically wartime activities from the influence of full urban employment during 1940-50, I believe that the abstraction of such influences would not vitiate the findings shown. No major military training establishments were located in the area, and while conscription-induced migration probably increased mobility to some extent, indications of high male mobility in full employment non-conscription years and high rates of female mobility in the full employment years support the important influence of full employment with or without war.

Race selectivity. Estimated aggregate race-specific migration rates reveal the racial selectivity of migration in both decades.⁴ While unemployment conduced net out-migration for both races, full employment encouraged a tripling of the nonwhite net out-migration rate, and reversed the direction of net white movement to in-migration (principally to Memphis). Similar selectivities appeared with the use of simple rates of population change in lieu of migration rates, and with or without the inclusion of Shelby county (containing Memphis). Furthermore, the higher rates of nonwhite natural increase did not offset the racial selectivity of migration in either decade so that the nonwhite proportion declined over time, with the more rapid decline during 1940-50. While full employment tended to make the counties more alike in racial composition (as measured by coefficients of quartile deviation), unemployment had the opposite effect.⁵

Selectivity by residential sector. Although the process of urbanization was under way in this area during the depression decade, there can be no doubt that full employment greatly stimulated this process, particularly for whites, as the following percentages of farm to total population indicate:

Year	All Races	White	Nonwhite
1930	59.84 (.055)	41.54 (.087)	72.43 (.063)
1940	55.65 (.065)	40.77 (.094)	66.60 (.081)
1950	42.56 (.132)	29.05 (.115)	55.45 (.107)

That this process of urbanization is an increasingly localized one is demonstrated by the increases over time in the values of coefficients of quartile deviation shown in parentheses.

These changes in composition reflect intercensal differences in rates of population change dependent upon employment. During 1930-40 there was a 1.09 per cent *increase* in the farm population as compared with a 16.92 per cent *decrease* during 1940-50. The nonfarm population, which increased by 20.01 per cent during 1930-40, showed a doubled rate of increase, 40.73 per cent, during 1940-50. These rates of change by residential sector indicate further selectivity when subclassified by race. For whites, the depression induced an 11.09 increase for the farm sector; for nonwhites, there was a *decrease* of 3.77 per cent. The succeeding decade showed a net decrease for the farm sector of *both* racial groups: whites 10.82 per cent, almost precisely a complete turnabout from 1930-40; nonwhites, 19.67 per cent, about double the white rate, and many times greater than the 1930-40 reduction rate. The nonfarm sector exhibited

Decade	White	Nonwhite
1930-40	-0.7 per cent	-7.6 per cent
1940-50	+4.8 per cent	-24.4 per cent

⁴ These proportions, with coefficients of quartile deviation of individual county data in parenthesis, were: 1930, 59.21 per cent (.097); 1940, 57.60 per cent (.120); and 1950, 51.15 (.100). The year to year stability of measures of population *composition* justify the use of 1940 data for intercensal population comparisons despite the fact that it was an unemployment year.

startling differences in interdecade rates for whites, going from +14.47 per cent for 1930-40 to + 49.95 per cent for 1940-50, a rate increased three-fold. Non-farm nonwhites, on the other hand, showed virtually no rate change (1930-40, +28.10 per cent; 1940-50, + 28.71 per cent). Although it is obvious that the area's nonfarm 1940-50 job opportunities opened up much more for whites than nonwhites, part of the difference is illusory. The 1930-40 rates of population change, both farm and nonfarm, reflect a movement by sharecroppers from farm to rural-nonfarm residence, sometimes with little change of actual residence, brought about by the "tractoring off" of croppers during that decade. Thus the 1930-40 nonfarm rate of increase is somewhat overstated, especially for nonwhites, and the nonwhite farm change for 1930-40 may, in a real sense, have actually increased. Despite this influence, however, it is clear that whites were better able to avail themselves of agricultural farm opportunities during depression, and of the area's nonfarm opportunities during full employment. Nonwhites, although apparently benefiting from the area's nonfarm job opportunities in both decades, benefited primarily from urban full employment job opportunities which were outside the area.

Although nonwhites continued to be the racially predominant group throughout the period, there are remarkable differences with respect to residential sector. Whites have predominated in the nonfarm sector with very little net change in racial proportion over the twenty years (1930, 40.64 per cent non-white; 1950, 39.67 per cent nonwhite), despite a slight rise in 1940 (43.38 per cent). On the other hand, the farm sector continued as a predominantly non-white area. There was a remarkable drop in the nonwhite proportion over the full employment decade (1940, 68.94 per cent; 1950, 60.65 per cent), but the 1930 proportion had been only slightly greater (71.68 per cent) than that for 1940. Thus the influence of full employment has been to make farm and non-farm areas more alike in racial composition, largely as a consequence of the migration of farm nonwhites to urban centers outside the area.

Age selectivities. This area demonstrated the nationally experienced large increase in birth rates during the full employment period. If we consider the increase in the numbers of children in the age category under 5, the area's 1930-40 increase was 4.41 per cent, but for 1940-50 there was a tenfold rate increase to 47.36 per cent. Both racial groups were responsive, but the effect of full employment was greater upon the white component. Thus during 1930-40, there was a small white decline (0.25 per cent), but for 1940-50, the rate was +63.91 per cent. The nonwhite rate was +8.00 per cent during 1930-40, but the rate for 1940-50 (+36.61 per cent), although large, was only about one half of the white rate.

Viewed by sectors, the responsiveness of this childhood age group to full employment was much greater in the nonfarm sector which showed in 1930-40 a 10.68 per cent increase, and during 1940-50 a more than twelve fold rate increase to +125.47 per cent. The farm sector showed only a +1.58 per cent rate for 1930-40, but the increased rate of change for 1940-50 to +8.93 per cent, was far less than that for the nonfarm sector. This difference explains a portion of

the racial difference in population change because of the preponderance of nonwhites in the farm area. In the nonfarm sector, however, the nonwhite rate was +116.09 per cent for 1940-50, fairly near the white rate of +132.57 per cent.

A broader childhood category, under 15, exhibits similar types of selectivities as those for the group under 5, with the general tendency for rates of change to vary less abruptly over time, and, further, to reveal slightly greater *decreases* than the group under 5 during 1930-40. The post-war baby boom would of course have less effect upon this broader category, and, quite possibly, migration was more of an influence upon the group aged 5-14 than that under 5. The proportion of the total population under 15 constitutes an index of childhood dependency. For the total population this index maintained considerable stability throughout the period (1930, 31.78 per cent; 1940, 29.19 per cent; 1950, 32.90 per cent). However, this stability conceals diverse tendencies for the two races. For whites there was a steady decline (1930, 31.45 per cent; 1940, 27.54 per cent; 1950, 24.49 per cent) with a slightly greater decline for 1930-40. For nonwhites, the rate was higher in 1930 and moved steadily higher with the greatest change between 1940 and 1950 (1930, 31.92 per cent; 1940, 30.40 per cent; 36.16 per cent). In addition to reflecting different rates of increase of the childhood populations, these proportions reflect racially differing tendencies on the part of the adult populations. Fundamentally, the in-movement of white adults and the out-movement of nonwhite adults have much to do with these differences. An important additional cause appears in the racially different replacement indexes.⁶ The white index declined from 1.447 to 1.249 between 1930 and 1940, quite responsive to unemployment conditions, and then increased to 1.648 by 1950, highly responsive to full employment. The nonwhite index increased even during the depression from 1.188 to 1.242, and dramatically during full employment to 2.048. Especially for nonwhites, there is an important influence contained in the medical and hygienic advances which have materially decreased infant and maternal mortality. The impetus given to this index by full employment appears in the more rapid increase during 1940-50. The childhood dependency ratio was much higher for the farm sector of the area than for the nonfarm sector, a generally recognized phenomenon which places upon farm areas the burden of rearing and educating persons who eventually enter the nonfarm labor force. My own estimates of the area's 1950 farm replacement indexes show higher values (whites, 1.898; nonwhites, 2.244) than for the total population. The fact that these 1950 indexes are considerably above the 1940 values (whites, 1.502; nonwhites, 1.378) means that a higher future rate of off-farm migration will be needed to maintain a given level of farm population decrease in this area. Taken together with the entry of nonfarm "baby boom" offspring into the area's nonfarm labor force, these high farm replacement indexes dim the prognosis of eliminating the area's farm poverty through out-migration, even over a period so long as a generation.

⁶ Computed from the ratio of the observed fertility ratio to the life table fertility ratio for a stable population. I computed the fertility ratios from the ratio of the number of children under 5 to the number of females, aged 15-44.

To a certain extent the data for the adult components complement those for the childhood groups. The two adult age groups considered were "males over 14" and "females 15-44". Sizeable rates of increase appeared for both groups during 1930-40 (males, +11.81; females, +5.18 per cent). During 1940-50, rates of changes were minor (males, +1.03 per cent; females, -1.28 per cent). Here again, the racial difference is noteworthy. During the depression years white and nonwhite populations increased for males over 14 (whites, +17.54 per cent; nonwhites, +7.68 per cent), and for females 15-44 (whites, +14.87 per cent; nonwhites, +3.52 per cent). The full employment decade intensified the white rate of increase (males, +20.32 per cent; females +17.77 per cent), but reversed the direction for nonwhites (males, -14.33 per cent; females, -18.93 per cent). A part of the difference may be explained by differences in the farm-nonfarm composition of the two races. For example, the 1940-50 rate of decline for nonwhite farm males over 14 (31.01 per cent) was almost double that for white (15.82 per cent). Although the difference for females 15-44 was not so great (nonwhites, -32.80 per cent; whites, -19.59 per cent), it was still considerable. For nonwhites, these rates were not complemented by equivalent increases in the nonfarm sector, particularly for the female group 15-44, where the rate of increase was only 2.43 per cent for 1940-50, as compared with a 16.76 per cent increase for nonwhite nonfarm males over 14. This suggests that nonwhite females may be more responsive to long-distance employment opportunities than are nonwhite males.

Rates of county population change and levels of agricultural development. Examination of the relationship between rates of population change and levels of economic development utilizes rank correlation techniques with county values taken as units. The index of agricultural development used is the gross value of farm products per farm worker (rural-farm male over 14). Table 1 (columns 2, 3, and 4) displays the results of rank correlation analysis of county levels of agricultural development and county rates of population change.⁷ Statistically significant relationships appear for 1940-50 but not for 1930-40, tending to confirm intercensal selectivity. The statistically significant relationships shown indicate that counties with the highest levels of agricultural development in 1950 tended to increase population at the fastest rate. There was, however, a racial selectivity in this movement, in that it was the white population which tended to increase in relationship to levels of agricultural development. For nonwhites, such a relationship was absent in both decades.

Sector-specific rates of change⁸ further delineate the pattern of population adjustment in the two decades. For the total farm population, there was no significant relationship to county levels of agricultural development for either decade. Race-specific rates of change, however, indicate statistically significant relationships, which are opposite in direction for the two races. Rates of county

⁷ All rankings are based upon algebraic, not numerical, values. That is the county with the greatest positive (or smallest negative) value would always be ranked in first place; the county with the smallest positive (or greatest negative) value would rank in last place.

⁸ The rates of change for a particular residential sector—farm or nonfarm.

TABLE 1

RANK CORRELATION COEFFICIENTS (ρ) OF POPULATION ADJUSTMENT DATA AND INDEXES OF AGRICULTURAL AND INDUSTRIAL DEVELOPMENT, COUNTY DATA, CURRENT YEARS (Asterisks indicate statistically significant relationships at the 95 per cent level (*) or the 99 per cent level (**).)

Item Correlated with Respective Column Heading, Current Year	Gross Value of Farm Products Per Farm Worker			Value Added by Manufacture Per Capita		
	1930	1940	1950	1930	1940	1950
Rates of Population Change:						
All Sectors						
All Races 1930-40	-.191	-.169		+.166	+.319	
1940-50		+.208	+.368*		+.647**	+.645**
White 1930-40	-.047	-.119		+.117	+.215	
1940-50		+.438*	+.601**		+.619**	+.599**
Nonwhite 1930-40	-.217	-.263		+.039	+.249	
1940-50		+.005	+.057		+.425*	+.415*
Farm						
All Races 1930-40	-.166	+.105		+.259	+.171	
1940-50		-.207	-.274		-.416*	-.263
White 1930-40	-.246	-.156		+.120	+.130	
1940-50		+.312	+.397*		+.282	+.321
Nonwhite 1930-40	-.457*	-.203		+.058	+.116	
1940-50		-.430*	-.688**		-.546**	-.431*
Nonfarm						
All Races 1930-40	-.008	-.476*		-.074	+.041	
1940-50		+.414*	+.553**		+.254	+.084
White 1930-40	-.217	-.334		-.080	-.050	
1940-50		+.263	+.447*		+.431*	+.136
Nonwhite 1930-40	-.377*	-.545**		-.089	+.012	
1940-50		+.432*	+.491**		+.118	+.153

Sources: *United States Census, 1930, 1940, and 1950, Population and Agriculture. United States Census, 1930, 1940, and 1947, Manufacturing.*

increase of farm whites tended to be largest in the agriculturally underdeveloped counties. For nonwhites, rates of county decrease of farm population tended to be greatest in the agriculturally developed counties—a disequilibrating influence with respect to agricultural incomes among counties. Moreover, there was no indication that this disequilibrating influence was a consequence of full employment in urban centers, since a similar relationship appeared for nonwhites in 1930-40. The inference is that this disequilibrating influence reflects basic conditions rather than simply the effect of full employment. On the other hand, full employment did produce equilibrating movements for farm whites, something which did not occur during the thirties. With respect to the total farm population, county movements were nonequilibrating, rather than equilibrating or disequilibrating, in both decades. These movements vindicate an economic policy of full employment as useful both in increasing farm incomes and contributing no more to county agricultural income disparities than conditions of less than full employment.

County rates of nonfarm population change correlated significantly with levels of agricultural development, with intercensal selectivity appearing in the form of opposite directions of correlation. The influence of full employment stimulated most rapid rates of increase of nonfarm population in the agriculturally developed counties. Both racial groups responded in this way. During the depression decade, however, the agriculturally most developed counties were those which tended to increase nonfarm population least, especially for non-whites.

Rates of county population change and levels of industrial development. Table 1 (columns 5, 6, and 7) also displays rank correlation coefficients between county rates of population change and county levels of industrial development, the latter measured by value added by manufacture per capita. The intercensal pattern of change serves to dramatize the influence of full employment. It implies that even though migrants tend to go to nonfarm centers during depression, they do so in insufficient numbers to counteract effects of natural increase. Thus, with respect to all categories shown not a single significant relationship appears for 1930-40. For the full employment decade, however, there were a large number of statistically significant relationships, thus affirming intercensal selectivity. With respect to the total population, including both racial groups, populations of the industrially developed counties increased most rapidly during the forties. To a certain degree, this complemented a situation in which farm populations tended to decrease most rapidly in the industrially developed counties. For whites, however, there was no significant relationship in county farm population changes and the level of industrial development. Nonfarm county population changes apparently were unrelated to levels of industrial development in either decade except for whites during 1940-50.

Over-all county population adjustment must be regarded as equilibrating with respect to industrial development during the full employment decade. Negative relationships with respect to farm population changes reflect a tendency for the farm population to decline most rapidly near centers of industrial development, tending to confirm an urban-industrial theory of economic growth.⁹

Rates of county population change by age category and levels of economic development. Both indexes of county economic development, agricultural development and industrial development, indicate clear intercensal selectivity for the age-sex specific categories of population change. I considered four age-sex categories, "under 5," "under 15," "males over 14 (the male labor force)," and "females 15-44 (the female reproductive force)." Including the racial and sectoral subclassifications for each of the three census years for which data are available, I computed more than one hundred rank correlation coefficients for each index of county economic development. With respect to county agricultural development, there were only four or five statistically significant relationships relating to the 1930-40 decade; for 1940-50, there were about as many statistically significant relationships as there were nonsignificant ones. With respect to county industrial development, the 1930-40 rates of change were almost

⁹T. W. Schultz, "Reflections on Poverty within Agriculture", *Journal of Political Economy*, February 1950, LVIII, pp. 1-15.

without exception statistically nonsignificant, but for 1940-50 these relationships were frequently statistically significant.

The pattern for the relationship of county rates of change for the two childhood groups is remarkably similar. For 1940-50 there was a generally significant positive association between the level of either agricultural or industrial development and the rate of childhood population change. For 1930-40, these relationships were *negative* and usually nonsignificant. Full employment on the other hand, tended to significantly stimulate increases in the number of children most in both the industrially and agriculturally developed counties. This was true for both racial components. For the farm sector, however, this relationship held only for farm whites, and then only with respect to the agricultural index. Although this equilibrating tendency failed to appear for farm nonwhite children, the full employment relationship for white farm children is in the proper direction for income-equilibration with the agriculturally most developed counties experiencing the greatest rate of increase in the number of children. The nonfarm sector clearly showed the reversal from a negative relationship (significantly so with respect to the agricultural index) for the depression decade to a significant positive relationship for 1940-50.

Changes in the county sizes of the male labor force also reflect the pattern of full employment with only three significant relationships appearing for the agricultural index (all with respect to the nonfarm sector) and only one with respect to the industrial index. This age-sex group increased most significantly during 1940-50 in the industrially developed counties, and, then for whites only. With respect to the agricultural index, the 1940-50 relationship was nonsignificant for the total population, but showed opposite directions for the two races. Whites tended to increase most (or decrease least) rapidly in the agriculturally developed counties, but nonwhites tended to decrease most rapidly in these counties. Because of the predominance of nonwhites in the farm sector, the significant relationships, appearing only for 1940-50, were negative in direction, with respect to both the agricultural and industrial indexes. Farm whites, however, displayed a positive tendency. The nonfarm sector, swung from a significant *negative* relationship for 1930, to a significant *positive* one for 1940-50. In this case, both race groups showed a positive relationship—a contrast with the farm sector. With respect to the industrial index, there was no clear intercensal relationship for the nonfarm male labor force.

Adjustments of the female reproductive force display about the same pattern as that for the male labor force. The intercensal selectivity of change is obvious. In the overall pattern, however, there are one or two important differences. In the first place, changes for the adult female group of farm whites contrasts with that for white farm males. During the forties there was a tendency for the farm women to leave the agriculturally advanced counties more rapidly than the retarded counties. This is the direct opposite of the tendency for white farm males, and suggests that nonfarm opportunities for these women were relatively more attractive than farm opportunities as compared with the men. The real question appears to lie in the explanation of the positive relationship shown for the

white farm labor force. Probably this can be explained by the shift of technology in the advanced counties that requires higher levels of education and experience in the use of machinery, which suggests a substitution of white for nonwhite farm labor. For white farm females, however, nonfarm opportunities apparently proved superior, particularly for farm women in the agriculturally advanced counties. The second difference between the male and female pattern appears for nonfarm nonwhites. In this case the difference is of less importance, since correlation coefficients for both sexes are positive. In the case of females, however, they are nonsignificant at the 95 per cent level. Very likely, this reflects the rather small increases in nonfarm adult females throughout the area during the forties relative to nonfarm adult males, implying sexually selective migration rates to distant employment centers. Actually the nonwhite nonfarm male labor force category shows the single significant relationship to the agricultural or industrial indexes for the thirties, and indicates that while the nonwhite male labor force during the depression tended to increase most rapidly in the industrially developed counties, this tendency has disappeared by the forties, doubtless a consequence of the relative attractiveness of distant employment centers. For adult nonfarm whites, both male and female, full employment brought with it the encouragement to move to local centers.

County demographic characteristics and agricultural development. Table 2 (columns 2, 3, and 4) exhibits rank correlation coefficients summarizing relationships of county demographic characteristics and levels of agricultural production. One of the most interesting results comes from estimates of county replacement indexes. It is curious to observe that only in 1950 does a significant *positive* relationship appear. In that year the white farm population was tending to replace itself most rapidly in counties of advanced agricultural development, implying that the replacement pattern would be consistent with income-equilibration of county agricultural incomes. However, the preponderance of nonwhites in farm sectors of the area's counties, and the absence of a significant relationship for farm nonwhites, prevent this income-equilibrating characteristic from extending to the farm population as a whole.

Undoubtedly this positive association of county replacement indexes and levels of agricultural income is an outgrowth of full employment conditions, in view of the striking contrast between the 1940 and 1950 correlation coefficients. For whites, in 1940, there was a nonsignificant relationship. Nonwhites, however, had a significantly *negative* coefficient which means that farm replacement indexes were highest in the poorest agricultural counties. The fact that this extended to the total farm population is evidence of an income-disequilibrating influence in 1940. A similar situation appears to have been true in 1930. Apparently one of the important consequences of the full employment decade was to neutralize this disequilibrating influence of nonwhite farm population replacement and to convert the nonequilibrating tendency of white farm population replacement to one of income-equilibration.

The full employment decade influence on the all sector population was analogous to that found in the farm sector. Replacement indexes for each race tended

TABLE 2

RANK CORRELATION COEFFICIENTS (ρ) BETWEEN DEMOGRAPHIC MEASURES AND INDEXES OF AGRICULTURAL AND INDUSTRIAL DEVELOPMENT, COUNTY DATA, CURRENT YEARS
(Asterisks indicate statistically significant relationships at the 95 per cent level (*) or the 99 per cent level (**).)

Item Correlated with Respective Column Heading, Current Year	Gross Value of Farm Products Per Farm Worker			Value Added by Manufacture Per Capita		
	1930	1940	1950	1930	1940	1950
Replacement Index						
All Sectors						
White	-.090	-.076	+.130	-.320	-.426*	-.177
Nonwhite	-.475**	-.619**	+.333	+.563**	-.695**	-.697**
Farm						
All Races	-.587**	-.507**	-.165	-.291	-.425*	+.357*
White	n.a.	+.085	+.591**	n.a.	-.178	+.145
Nonwhite	n.a.	-.737**	+.077	n.a.	-.374*	-.248
Percentage Nonwhite						
All Sectors	+.417*	+.320	+.155	-.168	+.185	-.195
Nonfarm	+.342	+.423*	+.581**	+.228	+.294	+.144
Farm	+.462*	+.268	+.247	+.020	-.045	+.199
Percentage Rural-farm						
All Races	-.214	-.192	-.464*	-.680**	-.682**	-.661**
White	-.377*	-.250	-.514**	-.668**	-.693**	-.655**
Nonwhite	-.267	-.206	-.560**	-.709**	-.637**	-.704**
Percentage Male						
All Sectors						
All Races	-.502**	-.369*	-.340	-.384*	+.054	-.014
White	+.315	+.310	+.150	-.316	-.297	-.331
Nonwhite	+.346*	+.050	-.129	-.421*	-.309	-.403*
Farm						
All Races	+.140	+.042	-.085	+.049	+.066	+.043
White	n.a.	+.506**	+.493**	n.a.	+.207	+.193
Nonwhite	n.a.	+.242	-.043	n.a.	+.118	+.052

Sources: *United States Census, 1930, 1940, and 1950, Population and Agriculture. Vital Statistics of the United States. United States Census, 1930, 1940, and 1947. Manufacturing. Life table data for replacement index computation derived from: 1930, U.S. Bureau of the Census, U.S. Abridged Life Tables, 1939, Urban and Rural by Region, Color and Sex.* (Washington: Government Printing Office, 1943). 1940 and 1950, U.S. Public Health Service, *State and Regional Life Tables, 1939-41* (Washington: Government Printing Office, 1948).

to be highest in counties of lowest agricultural development, and even though no significant relationship appeared by 1950, there was a considerable change away from a highly significant *negative* relationship in 1940.

County percentages of nonwhites appear, in some cases, to be related to levels of agricultural development. However, no pronounced change appeared as a consequence of full employment in the forties. At present, counties with the *highest* nonwhite proportions in the nonfarm sector tend to be those with the highest agricultural incomes, an intensification of a relationship first appearing with significance in 1940. In 1930, however, the farm sectors of the agriculturally

developed counties tended to have the largest proportions of nonwhites. One influence of the depression years was to shift many nonwhites to rural-nonfarm residence, and this explains some of the change in relationships between 1930 and 1940.

County percentages of rural-farm to total population, tended in 1950 to be highest in counties of low levels of farm income. This tends to confirm T. W. Schultz' urban-industrial hypothesis¹⁰ that agricultural income adjustments take place most satisfactorily near urban centers. However, the coefficients for the earlier years tend to confirm this hypothesis only for whites (in 1930). In all other classifications, only nonsignificant relationships appear. Part of the change from 1940-50 can be attributed to the influence of full employment. It is possible, however, that the absorption of this area into a local industrial-urban complex is a matter of relatively slow historical development. There is, moreover, a real possibility that the comparative advantage of much of the areas in agriculture may be so great that high farm incomes may ultimately be realized without much local industrialization.

The male proportion of total population, of interest because of the tendency for urban centers to attract females in larger number than males, in general, failed to correlate with county levels of agricultural income. White farm males tended to be in largest proportion in the agriculturally developed counties, reflecting both race and sex selectivity. The negative correlation shown for the total population proportion of males, can be interpreted as partial evidence of urban development in the agriculturally developed counties.

County demographic characteristics and industrial development. Table 2 (columns 5, 6, and 7) summarizes relationship between certain demographic characteristics by counties and county levels of industrial development. County replacement rates tended to be lowest in industrially developed counties, undoubtedly reflecting the relatively low proportions of farm residents with high replacement rates in the more industrial counties. An implication of this tendency is that there will be a continued attraction for off-farm migrants to urban centers, particularly to the best developed ones. To a certain extent this prognosis is dimmed for whites by the nonsignificant relationship appearing for whites in 1950, apparently in response to full employment conditions. The absence of any significant relationship between the county proportions of nonwhites and levels of industrial development is surprising in view of the significant relationships appearing with respect to levels of agricultural development. Possibly it indicates that a substantial portion of nonfarm population in the agriculturally developed counties consists of nonwhite rural-nonfarm people. The highly significant negative correlation between county levels of industrial development and percentage of county populations rural-farm perhaps reflects a truism—i.e., that manufacturing tends to take place in urban settings. Except for 1950, however, this strong relationship provides a striking contrast between the area's county patterns of agricultural and industrial development. The significant relationships between county proportions of males

¹⁰ *Ibid.*

and levels of industrial development are negative, and probably reflect the selective attraction of female migrants to urban-industrial centers. There was some tendency, however, for depression to alter this relationship for both races, and even by 1950, no significant relationship appeared for the white component. For the farm sector taken alone, no significant relationship appeared in any year.

County age-sex proportions and agricultural development. Table 3 (columns 2, 3, and 4) exhibits rank correlation coefficients relating county age-sex proportions and county levels of agricultural development. Naturally, for the problem of agricultural poverty, proportions for the farm sector are most important. However, relationships for the all sector population have some bearing upon this problem.

The two childhood age groups show about the same pattern of relationship between county levels of agricultural development and county proportions in either age component. In general, until the period of full employment during the forties, there was a tendency for the agriculturally developed counties to have the smallest proportions of children. This change must not be attributed solely to the effect of full employment, because there was a trend in this direction even during the thirties, especially for those under 5. Changing county proportions of nonwhites were of some importance in bringing about the change in relationship. Even in 1950, there was a strong tendency for proportions of nonwhite children under 15 to total nonwhites to be largest in the agriculturally poorest counties, although there was in 1950 some slight departure from this relationship. On the other hand, there was, until 1950, no significant relationship between proportions of white children to total whites and levels of agricultural development. By 1950, changes in white birth rates and in the migration pattern brought about a relationship with largest proportions of white children appearing in the agriculturally advanced counties.

The pattern of the relationship for the farm sector differs in some ways from that for the total population. The negative relationship evident before 1950 for all sector population parallels the relationship for the farm sector. By 1950, however, the farm sector proportions swung all the way to a significantly positive relationship, i.e., agriculturally developed counties, rather than undeveloped ones, tended to have the largest proportions of children. Clearly from the point of view of farm income equilibration with the area, this constituted an ameliorative tendency. It, however, masks contrary tendencies for the two racial components. Thus, even in 1940, there was a tendency for the agriculturally developed counties to have the largest proportions of white farm children. By 1950, this relationship became highly significant. For nonwhites, the change between 1940 and 1950 was one from *negative* significance to one of nonsignificance. While this represents a desirable change it still does not constitute an improvement from the point of view of county farm income equalization. An important mechanism in the changing of the proportion of children to total population in the various counties has been the migration pattern, and since the farm sectors of almost all counties lost population, the farm childhood de-

pendency ratio has thereby increased. The 1950 incidence of this dependency ratio, however, indicates that the counties which can best afford the larger numbers of children tend to do so in the farm sector. Readers should continue to bear in mind, however, that the average farm income in all of these counties is very low as compared with the U. S. average.

The agriculturally best developed counties tended to have the largest proportions of working males, both in the all sector and farm sector classifications, until 1950. By that year, the relationship became nonsignificant. This development reflects contrasting racial patterns of change. The all sector nonwhite population tending to be largest in the agriculturally developed counties even in 1950. Whites, on the other hand, displayed no significant relationship until 1950, when a highly significant *negative* relationship appeared. Essentially the same pattern appears for the farm sector.

The female reproductive force proportion did not display the changes in 1950 shown by the male labor force. Strong positive associations appear in all three census years between the female proportion and the level of agricultural development, including both racial components, with some change in tendency for the nonwhite group. This general pattern was evident for the farm sector as well despite the change in this relationship for nonwhite females.

County age proportions and industrial development. Table 3 (columns 5, 6, and 7) displays rank correlation coefficients between levels of industrial development by counties and county age and age-sex proportions. In the case of the childhood age groups, no significant relationship appeared between childhood proportions and the level of industrial development so far as the farm sector is concerned. The all sector population, however, due largely to the influence of the nonwhite component, tended to show a negative relationship. In other words, industrially most developed counties tended to have the lowest percentages of nonwhite children. Only in 1930 did a similar relationship appear for whites for children under 15. In general there was no strong relationship between the proportions of male adults and the county level of industrial development. Such significant relationships as do appear are found only for 1940. These largely reflect the influence of the nonwhites, and indicate that in 1940 the industrially developed counties tended to have the largest proportions of nonwhite males to total nonwhite population. There is a considerable contrast shown for the female reproductive force's relationship to county levels of industrial development. For that group, the all sector population shows a highly significant relationship to county levels of industrial development for every category in every year. Inasmuch as there was only a slight tendency for this pattern to appear with respect to the farm sector, it very likely reflects the well-known tendency for urbanized communities to draw large numbers of women in the 15-44 years category.

Conclusions. In general the findings vindicate a policy of full employment as an aid both to improving levels of per worker farm income and of contributing little more to average farm income disparities than depression. The role of full employment in accelerating industrial development both locally and nationally

TABLE 3

RANK CORRELATION COEFFICIENTS (ρ) BETWEEN AGE PROPORTIONS AND INDEXES OF AGRICULTURAL AND INDUSTRIAL DEVELOPMENT, COUNTY DATA, CURRENT YEARS
(Asterisks indicate statistically significant relationships at the 95 per cent level (*) or the 99 per cent level (**).)

Item Correlated with Respective Column Heading Current Year	Gross Value of Farm Products Per Farm Worker			Value Added by Manufacture Per Capita		
	1930	1940	1950	1930	1940	1950
Percentage under 5						
All Sectors						
All Races	-.437*	-.280	+.228	-.421*	-.505**	-.223
White	+.137	+.089	+.667**	-.194	-.291	+.174
Nonwhite	-.527**	-.544**	-.325	-.534**	-.418**	-.532**
Farm						
All Races	-.400*	-.249	+.482*	-.245	-.323	+.023
White	n.a.	+.367*	+.692**	n.a.	+.008	+.165
Nonwhite	n.a.	-.617**	+.037	n.a.	-.342	-.145
Percentage under 15						
All Sectors						
All Races	-.418*	-.377*	-.032	-.563**	-.481*	-.450*
White	+.107	+.142	+.466*	-.329	-.330	-.070
Nonwhite	-.531**	-.684**	-.560**	-.622**	-.630**	-.596**
Farm						
All Races	-.514**	-.359*	+.510**	-.292	-.323	+.080
White	n.a.	+.405*	+.828**	n.a.	-.013	+.288
Nonwhite	n.a.	-.640**	-.283	n.a.	-.336	-.174
Percentage Male Over 14						
All Sectors						
All Races	+.553**	+.549**	+.010	+.397*	+.370*	+.183
White	+.297	+.104	-.556**	+.192	+.241	-.238
Nonwhite	+.573**	+.664**	+.404*	+.466*	+.418*	+.338
Farm						
All Races	+.513*	+.574**	-.314	+.395*	+.297	+.132
White	-.444*	-.140	-.810**	-.218	+.054	-.209
Nonwhite	-.123	+.682**	+.349*	+.343*	+.350*	+.281
Percentage Female 15-44						
All Sectors						
All Races	+.617**	+.638**	+.467**	+.570**	+.643**	+.803**
White	+.537**	+.540**	+.680**	+.612**	+.677**	+.630**
Nonwhite	+.657**	+.652**	+.385*	+.658**	+.690**	+.722**
Farm						
All Races	+.784**	+.694**	+.295	+.174	+.349*	+.122
White	n.a.	+.532**	+.632**	n.a.	+.351*	+.260
Nonwhite	n.a.	+.711**	+.113	n.a.	+.337	+.039

Source: United States Census, 1930, 1940, and 1950, Population and Agriculture.

introduced a dynamic quality to income improvement in the area. In the process of stimulating mobility and births, full employment brought out racial, sectoral, and age-sex selectivities not apparent during depression. While local opportunities for nonfarm employment expanded notably during full employment,

higher urban birth rates provided an enlarged potential labor pool in nonfarm areas both in this area and nationally. In the future, therefore, a given rate of growth of nonfarm jobs will not be able to absorb so large a proportion of redundant farm labor. In this area and the South generally, where the full employment of the forties and early fifties was not sufficient to absorb local off-farm migration, such a development casts a shadow upon future prospects of a continuing increase in per worker farm incomes even given continuous full urban employment.

THE TEXTILE CYCLE: CHARACTERISTICS AND CONTRIBUTING FACTORS

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During the 30 peace-time years since World War I cotton textile output data show $13\frac{1}{2}$ cycles which have typically been about two years in duration.² Similar cycles, with turning points which in most cases agree very closely with the cotton textile turns, may also be seen in series for woolen, silk and rayon cloth production and for ladies hosiery output. (See Table 1.)

I. BASIC CHARACTERISTICS OF THE TEXTILE CYCLE

The four series examined in Table 2 serve to lay bare the basic characteristics of the cycle. These series (cotton textile output, mill margins, unfilled orders, and inverted unsold mill sticks)³ move together closely but at different rates of increase and decrease. During expansion, mill margins and output rise and stocks are depleted in the face of increasing orders. Orders rise at a much faster rate than output, and unfilled orders accumulate. During recession the opposite is the case, with new orders falling faster than output so that unfilled orders decline sharply.

In an earlier study I summarized weekly cotton cloth market reports in the *Wool and Cotton Reporter* for the period 1946 to 1952.⁴ These reports substantiated the story as revealed by the four series and added detail on the behavior of buyers and sellers as follows:

The expansion begins with a number of buyers (typically, converters) placing

¹ The research upon which this paper is based dealt principally with the cotton broadwoven goods branch of textiles which accounts for about 79 per cent of all cloth produced. The observations are generally applicable to other textile markets, however, since most of the textile branches are closely related, as will be shown below.

² In marking these cycles I have made use of the criteria employed by the National Bureau of Economic Research for identifying peaks and troughs of specific cycles. See Arthur F. Burns and Wesley C. Mitchell *Measuring Business Cycles* (New York, 1946), pp. 56-58. These turns are designated by X's on Chart 1. In addition, peaks and troughs in a number of shorter movements (minor subcycles) have been marked with O's to assist the reader in a part of the subsequent analysis. I have departed from NBER criteria in marking one cotton textile cycle, however (expansion June 1924 to December 1925, recession December 1925 to May 1926) because the data show clearly that the expansion did not persist during the first half of 1926. Moreover, both the mill margin and unfilled orders data indicate a well-defined contraction during this period (see Table 2).

³ Mill margins represent the difference in the current market price of a unit of cloth and the current market price of the cotton used in its manufacture, including waste in mill processing. Mill margins are a much more sensitive series than cloth prices since they provide a picture of the cloth price free of the cotton cost element which may fluctuate independently of market conditions.

⁴ Thomas M. Stanback, Jr., "Short Run Instability in the Cotton Broad Woven Goods Industry, 1946-1951" (unpublished Ph.D. dissertation, Duke University, 1954), pp. 187-209, 323-388.

TABLE 1
DATES OF COTTON TEXTILE CYCLE TURNS AND COMPARATIVE TIMING
OF OTHER TEXTILE CYCLE TURNS

T = Trough P = Peak	Dates: Cotton Textile Output Turns	Lead (-) or Lag (+) Woolen Textile Output	Lead (-) or Lag (+) Raw Silk Deliveries to Mills	Lead (-) or Lag (+) Rayon Deliveries to Mills	Lead (-) or Lag (+) Output Ladies Hosiery
T	Mar. '19	-1	N.A.	N.A.	N.A.
P	Jan. '20	+3	N.A.	N.A.	N.A.
T	Dec. '20	0	0	N.A.	N.A.
P	May '23	0	-6	N.A.	N.A.
T	June '24	0	-3	N.A.	N.A.
P	Dec. '25 ^a	0 ^a	0	N.A.	N.A.
T	May '26 ^a	0 ^a	0	+1	N.A.
P	June '27	-3	X	0	N.A.
T	Mar. '28	+4	X	+7	N.A.
P	May '29	0	+3	+5	N.A.
T	Sept. '30	+2	-3	+3	N.A.
P	July '31	0	-7	+1	N.A.
T	May '32	0	0 ^a	+1	N.A.
P	Aug. '33	-1	-2 ^a	-1	N.A.
T	Sept. '34	0	0 ^a	0	N.A.
P	Mar. '37	0	-3	+2	N.A.
T	Dec. '37	+1	0	+1	N.A.
P	Dec. '39	-2	-13	0 ^a	N.A.
T	April '40	0	-1	+5 ^a	N.A.
T	Aug. '45	+4	N.A.	X	+4
P	Nov. '46	-2	N.A.	X	+2
T	Sept. '47	-2	N.A.	X	-3
P	May '48	-1	N.A.	+2	+7
T	July '49	-3	N.A.	-3	-3
P	Mar. '51	-5	N.A.	+1	-2
T	April '52	-1	N.A.	-1	-7
P	June '53	-3	N.A.	-1	-8
T	May '54	-3	N.A.	0	X
P	April '56	-2	N.A.	N.A.	N.A.

N.A. = data not available.

X = does not show comparable turn.

Source: All data compiled from government or trade association sources and adjusted for seasonal variations. All dates of turns are specific cycle turns marked according to NBER rules except turns identified by "s." Turns marked "s" are subcycle turns (turns which are less well defined or which may not be marked according to NBER rules because of brief duration of phase). See footnote 2 regarding marking of cotton textile output turns. Cotton textile output series is cotton consumption at mills. Woolen textile output series is apparel wool consumption at mills.

sizeable orders for future delivery. Trading immediately becomes active. Buyers place advance orders because of anticipation of higher prices or out of fear of being "caught short." Further, some sellers (mills acting through selling houses or sales offices) aggravate prevailing speculative tendencies by withholding yardage and giving the appearance of being "sold out" only to return at a later

TABLE 2
DATES OF COTTON TEXTILE TURNS AND COMPARATIVE TIMING OF TURNS IN MILL MARGINS, UNFILLED ORDERS AND UNSOLD STOCKS
RELATED DATA ON AMPLITUDE OF CYCLE MOVEMENTS AND LEVELS OF STOCKS

T = Trough P = Peak	Dates: Cotton Textile Output Turns	Lead (-) or Lag (+) Cotton Cloth Mill Margins (Avg. 17 Constr.)	Lead (-) or Lag (+) Unfilled Orders Cotton Cloth Mills	Lead (-) or Lag (+) Unfilled Stocks Cotton Cloth Mills	Level of Unsold Stocks At P and T*		Amplitude (%)		
					T	P	Cotton Textile Output**	Cotton Cloth Mill Margins**	Unfilled Orders Cotton Cloth Mills**
T	Mar. '19	-1a	N.A.	N.A.	N.A.	N.A.	+29	+112	N.A.
P	Jan. '20	+3a	N.A.	N.A.	N.A.	N.A.	-62	-118	N.A.
T	Dec. '20	+6a	N.A.	N.A.	N.A.	N.A.	+67	+39	N.A.
P	May '23	-3a	N.A.	N.A.	N.A.	N.A.	-42	-51	N.A.
T	June '24	0a	N.A.	N.A.	N.A.	N.A.	+41	+42	N.A.
P	Dec. '25*	-2a	N.A.	N.A.	7.7	N.A.	-14	-11	N.A.
T	May '26*	+3	0	+1	3.1	3.1	+32	+8	+93
P	June '27	0	-1	+1	6.6	4.6	-31	-23	-97
T	Mar. '28	+3	0	+6	7.8	X	+22	+13	+76
P	May '29	+6	-6	-2*	X	X	-48	-	-71
T	Sept. '30	X	-1	+3*	X	N.A.	+28	-	+65
P	July '31	X	-1	X	X	N.A.	-45	-	-81
T	May '32	+9	-1	N.A.	6.9	2.8	+77	+83	-
P	Aug. '33	-1	0	+5	11.3	5.4	-63	-53	-
T	Sept. '34	+10	0	-2	10.4	1.0	+75	+52	+139
P	Mar. '37	+1	0	+3*	2.3	1.1	-53	-52	-131
T	Dec. '37	+4	-3	-1	1.9	5.0	+53	+33	+98
P	Dec. '39	-2	-3	-1	5.0	1.1	-15	-34	-53
T	Apr. '40	+2	-1	+5	1.0	1.1	+22	+119	+118
P	Aug. '45	-2	+12	+12*	1.1	1.1	-19	-14	-20
T	Nov. '46	+4*	+4*	+3*	1.1	1.1	+11	+32	+43
P	Sept. '47	-3*	-3*	-2*	1.1	1.1	-35	-80	-138
T	May '48	-5	-4	-5	1.1	1.1	-35	-80	-138
P	July 49	-1	-2	-1	1.1	1.1	-35	-80	-138

P	Mar. '51	-3	-2	0	1.4	+47	+57	+149
T	Apr. '52	+2	+1	-5	5.1	-24	-69	-106
P	June '53	-5	0	0	2.5	+11	+40	+67
T	May '54	+4	-1	+1	4.4	-16	-34	-58
P	Apr. '56	-3	-5	-2	2.6	+14	+19	+79

* Level of unsold stocks stated in number of weeks current output.

** Amplitude was measured by computing change from peak to trough or trough to peak of each series and expressing change as percentage of average value of the series during the respective phase.

Source a = Data from Stephen J. Kennedy, *Profits and Losses in Textiles* (New York: Harper and Bros., 1936). All other mill margin data are U.S. Dept. of Agriculture Average of 17 Constructions of unfinished cotton cloth. Cotton textile output series is Cotton Consumption at Mills series—published by Dept. of Commerce. All data adjusted for seasonal variation. Data for unfilled orders and unsold stocks compiled from data published by American Cotton Manufacturers' Institute, "Cotton Textile Hi-Lights" various issues.

TABLE 3
 DATES OF REFERENCE SUBCYCLE TURNS, DATES AND COMPARATIVE TIMING OF TURNS IN COTTON TEXTILE OUTPUT,
 DEPARTMENT STORE SALES AND INVENTORY INVESTMENT

T = Trough P = Peak	Reference Subcycle Turns	Cotton Textile Output Turnst	Dep't. Store Inventory Investment Turns‡	Dep't. Store Sales Turnst
T	*Mar. '19	Mar. '19 (0)	Data Not Avail.	Data Not Avail.
P	*Jan. '20	Jan. '20 (0)	Feb. '20 (+1)	May '20 (+4)
T	*July '21	Dec. '20 (-7)	Dec. '20 (0)	Sept. '21 (+9)
P	*May '23	May '23 (0)	June '23 (+1)	Feb. '24 (+9)
T	Oct. '23	X		
P	Feb. '24	X		
T	*June '24	June '24 (-1)	Dec. '24 (+6*)	Oct. '24 (+4)
P	Jan. '25	Apr. '25 (+3*)	June '25 (+2*)	
T	May. '25	Sept. '25 (+4*)	Aug. '25 (-1*)	
T	Dec. '25	Dec. '25 (0*)	Jan. '26 (+1*)	
T	May '26	May '26 (0*)	June '26 (+1*)	
P	*Oct. '26	June '27 (+8)	Nov. '26 (-7*)	Jan. '27 (-5)
T	*Nov. '27	Mar. '28 (+4)	Nov. '28 (+8*)	Apr. '27 (-11)
P	*June '29	May '29 (-1)	June '29 (+1*)	Sept. '29 (+3)
T	Jan. '31	Sept. '30 (-4)	July '30 (-2)	
P	April '31	July '31 (+3)	July '31 (0)	
T	July '32	May '32 (-2)	Sept. '32 (+4)	
P	Oct. '32	Sept. '32 (-1*)	Nov. '32 (+2*)	
T	*Mar. '33	Feb. '33 (-1*)	Feb. '33 (0*)	
P	July '33	Aug. '33 (+1)	July '33 (-1)	May '33 (+6)
T	Nov. '33	Dec. '33 (-1*)	Dec. '33 (0)	
P	May '34	Apr. '34 (+4*)	Mar. '34 (-1*)	
T	Sept. '34	Sept. '34 (0)	Aug. '34 (-1*)	
P	*Apr. '37	Mar. '37 (-1)	Jan. '37 (-2)	Mar. '37 (+4)
T	*May '38	Dec. '37 (-6)	Nov. '37 (-1)	May '38 (+6)
P	Dec. '38	Dec. '38 (0*)	Jan. '39 (+1*)	
T	May '39	June '39 (+1*)	May '39 (-1*)	

P T T T P T T T P T P T	Nov. '39 April '40 *Oct. '45 Jan. '47 July '47 *Nov. '48 *Oct. '49 Feb. '51 June '52 *July '53 *Aug. '54	Dec. '39 (+1) Apr. '40 (0) Aug. '45 (-2) Nov. '46 (-2) Sept. '47 (+2) May '48 (-6) July '49 (-3) Mar. '51 (+1) Apr. '52 (-2) June '53 (-1) May '54 (-3)	Sept. '39 (-3) May '40 (+1) Dec. '45 (+4) July '46 (-4) Apr. '47 (-6) Jan. '48 (-4) Jan. '49 (0) Aug. '50 (-7) Sept. '51 (-7) Apr. '53 (-2) Jan. '54 (-4)	Sept. '45 (+1*) Aug. '46 (-3*) Oct. '46 (-11*) Oct. '48 (+5) July '49 (0) Jan. '51 (-2*) Apr. '51 (-12*) Mar. '53 (-3*) Jan. '54 (-4*)
No. of peacetime Subcycle reference turns	38			
No. of Conforming turns, cotton textile output		36		
No. of leads or lags ± 4 months		32		
No. of peacetime cotton textile output turns, 1920-1954		35	35	
No. of conforming turns, Dept. Store Inventory Investment				
No. of conforming turns, Dept. Store Sales				19

* Reference dates which correspond to NBER Reference cycle dates.

† Timing comparisons are with reference subcycle turns.

‡ Timing comparisons are with cotton textile output turns.

Source: Reference dates from R. P. Mack, "Notes on Subcycles in Theory and Practice," *Amer. Econ. Review*, XLVII, No. 2, pp. 166-167.
Cotton Textile output (cotton consumption at mills) data from Dept. of Commerce. Dept. store data from Federal Reserve Board. Prewar department store data are for all stores. Postwar are for merchandising group. All data adjusted for seasonal variation. (See Chart 1.)

time. Under such conditions mill margins rise, and mills book an increasing volume of orders for future delivery. The expansion ends with buyers' inventories heavy and sellers well "booked" for cloth to be delivered over a period several months in the future.

During the early recession phase, buyers, with a large volume of cloth on hand and on order, find no need to place new orders; and sellers, with unfilled contracts on their books, withdraw from the market and maintain quotients at previous levels. Gradually, as old orders are filled prices begin to weaken. Buyers act upon anticipations of further price declines and adopt a hand to mouth purchasing policy. Mills curtail output, in some cases quite sharply, but there is still production to stock, which buyers take to be a sign that the market will weaken further. The recession continues until mill margins have declined to minimum levels based on costs and until some stimulus sparks a new trading movement.

II. SENSITIVITY OF TEXTILES TO EXTERNAL CYCLICAL FORCES

New evidence on cyclical forces in the economy at large indicates that these fluctuations are part of a still larger pattern of short period movements. Within the past year Dr. Ruth Mack of the National Bureau of Economic Research has published a first report on subcycles. Using a variety of series covering physical output (both capital goods and consumers' goods), selected sensitive prices, and financial data, she has marked twenty-three intervals during the past eighty years when substantial reversals or cessations in phases of the forty months business cycle have occurred.⁵ Peaks and troughs in these "counterphases" (phases in which the series were typically moving against the business cycle tide) together with turns which correspond to the National Bureau of Economic Research business cycle reference dates provide a full reference chronology of business fluctuations. Measured against this chronology the textile fluctuations show a very high degree of conformity. Of the 36 peace-time reference phases occurring since 1919 only one cannot be matched by a similar movement in cotton textile output, and only four turns lead or lag by more than four months (Table 3).⁶

⁵ Dr. Mack sees subcycles as the result of over- and underbuying of materials deriving from much smaller fluctuations in final consumer buying. Subcycles in various industries tend to synchronize because of "the tendency for buying proper and particularly rates of change in buying—of a wide variety of finished consumers goods to move together in sub-cyclical rhythms" and because "the pattern of buying at the finished stage may reappear virtually instantaneously at any or all earlier stages..." Ruth P. Mack, "Notes on Subcycles in Theory and Practice," *American Economic Review*, XLVII, Number 2, p. 171. For a detailed analysis of the mechanism of transmission of the fluctuations in the rate of consumer buying see Ruth P. Mack and Viktor Zarnowitz, "Cause and Consequence of Changes in Retailers' Buying," to appear in an early issue of the *American Economic Review*.

⁶ In making this comparison with the subcycle reference chronology, minor subcycle turns (identified by "s" in Table 3) as well as specific cycle turns in the cotton textile output series have been included. The reader may examine these cyclical movements in Chart 1.

Further evidence of the degree to which textile cycles occur in tempo with cyclical forces elsewhere in the economy may be seen by comparison of textile cycles with movements in investment in department store inventories.⁷ Month to month changes in these stocks and data for cotton textile output are presented in Chart I, and timing comparisons are given in Table 3. Every specific cycle turn in the cotton textile series may be matched by a similar turn in department store inventory investment from 1920 to 1923 and from 1930 to 1954 (the war years excluded). During the period 1924 to 1929 department store inventory investment was subject to relatively small fluctuations, and the correspondence is less close though not unimpressive. The reader will note that during both the inter-war and postwar years minor subcycle turns (marked by 0's) in the textile series are matched by either minor subcycle turns or specific cycle turns in department store inventory investment.

Timing comparisons are also given for department store sales but with quite different results. The department store sales series moves very sluggishly, missing some of the textile turns and displaying no consistent tendency to lead or lag textile turns when cycles in sales do occur. This behavior suggests that changes in stocks are not simple mechanical reflections of sales, but involve periodic changes in the rate of purchasing.

What conclusions are justified by these comparisons? Department stores are important outlets for household textile products, but they alone do not account for a majority of the final sales of textile products. Nevertheless, the close agreement in the timing of turns in these series is highly suggestive. If textile output moves in close conformity to the overall subcycle reference chronology as well as to inventory investment movements for the important department store retailing group, it would seem likely that similar movements occur in inventories elsewhere in the economy and that the stimulus for textile movements derives from a generalized fluctuation in demand.

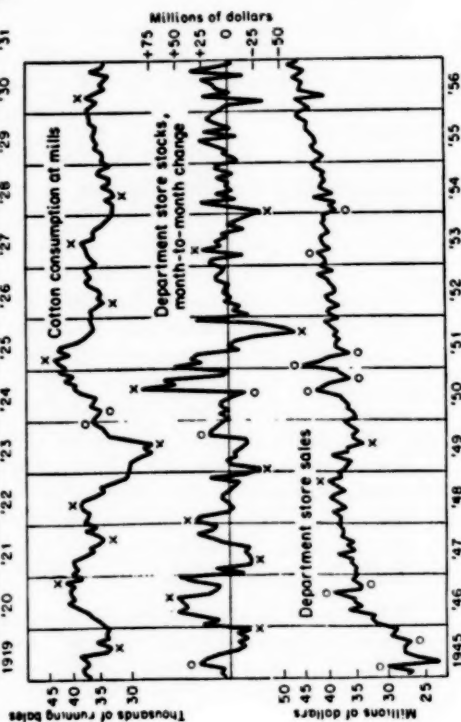
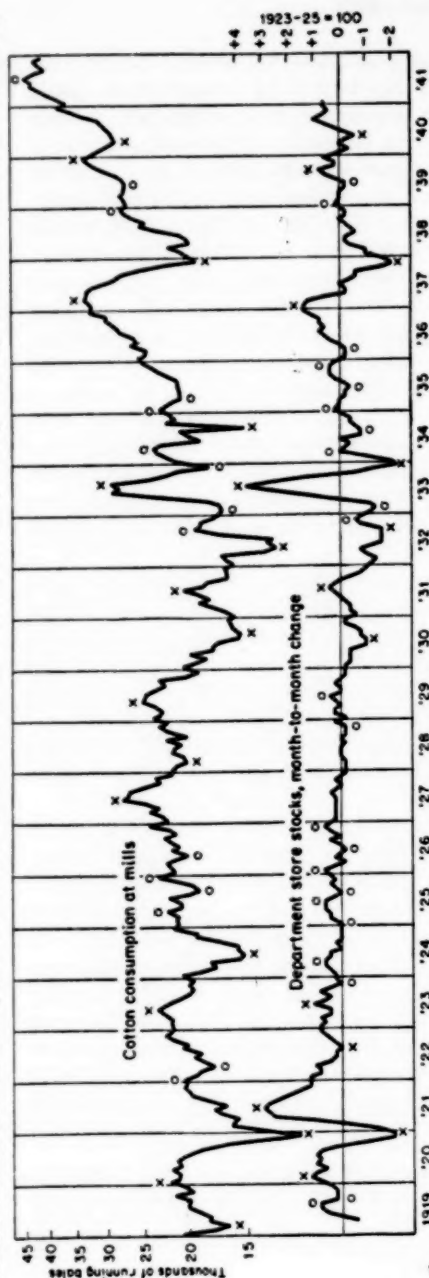
The unique characteristic of the textile industry, however, is not that it develops short period movements but that it develops them more consistently than any other industry and, moreover, that the amplitude of these fluctuations is very large in relation to amplitude of fluctuations in end-use demand. In a study of diffusion in specific cycles Burns and Mitchell traced the occurrence of specific cycle turns in ten industry employment series month by month from 1919 to 1939.⁸ The textile group show 17 turns, leather 13 turns, and among the remaining eight none showed more than eleven turns. The National Bureau of Economic Research files reveal that the amplitude of the textile fluctuations is larger than that of any but the heavy durables. On the other hand, such information as could be procured on end-use demand (a Department of Commerce study on income sensitivity of various types of retail products) indicates that

⁷ It would have been desirable to analyze other sales and inventory series representative of textile merchandising, but the Federal Reserve Board data are the only such materials available for both the interwar and postwar periods.

⁸ Arthur F. Burns and Wesley C. Mitchell, *op. cit.*, pp. 68-69.

CHART 1

COTTON CONSUMPTION AT MILLS, MONTH-TO-MONTH CHANGE DEPARTMENT STORE STOCKS (1919-41, 1945-56), DEPARTMENT STORE SALES (1945-56)



Sources and remarks: Cotton Consumption at mills (adjusted) data from Dept. of Commerce. Dept. store sales and stocks data (adjusted) from Federal Reserve Board. Inventory data 1919-41 are deflated data based on totals for all reporting stores with month-to-month changes smoothed by 5 month moving average (centered). Postwar sales and inventory data are undeflated merchandising data (not available prewar). X's mark specific cycle peaks and troughs, O's mark specific subcycle peaks and troughs. Arithmetic scale used for month-to-month series; ratio scale used for all other series.

the ultimate demand for textile products is not unusually sensitive to cyclical forces.⁹

In short, the industry appears as highly sensitive to cyclical stimuli abroad in the economy and tends to show well developed cycles at two to three year intervals in spite of relatively insensitive end-use demand.

In the remaining sections of this paper the manner in which market structure and overcapacity contribute to a high degree of instability is analyzed. Following this, certain recent trends in the industry are noted and their implications for future cyclical sensitivity discussed.

III. FACTORS CONTRIBUTING TO INSTABILITY

Competitive Market a Prerequisite

A competitive market structure is a necessary condition for inherent sensitivity to short-lived speculative market forces: buyers can have recurrent speculative anticipations only in competitive markets where prices are flexible, not in monopolistic or imperfectly competitive markets where prices are administered and sticky.

The over-all structure of the textile markets, though complex, fulfills this basic requirement, the competitive characteristics deriving largely from the prominent role played by the gray goods markets.¹⁰ These markets are highly competitive for several reasons:¹¹ 1) Standardized constructions of cloth make

⁹ This study prepared by Clement Winston and Mabel A. Smith measured sensitivity of a variety of personal consumption expenditure items to changes in Disposable Personal Income. A coefficient of 1 for a specified commodity or service indicated that changes in expenditure for the item were proportionate to changes in aggregate disposable personal income. Both of the two items indicative of textile consumption, semi-durable housefurnishings and clothing and accessories except footwear, had coefficients of 1.1. For purposes of comparison the following coefficients are listed: radios, phonographs and records 2.5, New cars and used cars 2.0, jewelry and watches 1.8, furniture 1.6, shoes and other footwear .8, drug preparations and sundries .6. Clement Winston and Mabel A. Smith, "Income Sensitivity of Consumption Expenditures," *Survey of Current Business*, January 1950, pp. 17-20. For purposes of evaluating the above it is useful to know that household products and apparel provide 70 percent or more of the demand for cotton textiles, industrial uses 30 percent. National Cotton Council of America, *Cotton Counts Its Customers* (Memphis: National Cotton Council of America, 1949), pp. 5-16.

¹⁰ Approximately 70 per cent of the total yardage of cotton broadwoven goods is produced in the form of gray goods (unfinished, unbleached fabric) of which a large part is sold by the mills without further processing. As late as 1948 it was estimated that more than one half of all cotton cloth produced was sold in the unfinished form. Stanback, *op. cit.*, p. 57.

¹¹ A tabulation was prepared of the number and size of mills producing in each fabric market for the year 1947, based on information contained in *Davison's Textile Blue Book* and other sources. This study provides the basis for the statements in this and the following paragraphs, *ibid.*, pp. 26-39. No similar study has been made for the period since 1947, but a list of merger acquisitions from 1953 through 1955 is available (A Study of the Antitrust Laws, Hearings before Sub-Committee on Antitrust and Monopoly, Senate Judiciary Committee, 84th Congress, 1st Session, 1955, Part 2, pp. 783-786) which readily reveals that acquisitions have served principally to diversify companies' product lines rather than to increase seller power in a given fabric market.

for product homogeneity. 2) In most markets there are large numbers of buyers and sellers. 3) In markets where there are not large numbers of sellers there are potentially large numbers of sellers because of the ease with which producers can shift spindles and looms from constructions of similar weight and thread count. 4) The various fabrics are so competitive in many end-uses that imperfections in markets are quickly broken down through ease of substitution.

On the other hand, the yarn dyed and mill finished fabric markets are less competitive. Requirements of special weaving and dyeing equipment prevent easy entry, and some markets show substantial concentrations of capacity. Nevertheless, close fabric rivalry substantially reduces seller power in most cases; and where fabric substitution is not a factor (e.g., bed sheets, towels) the great buying power of chain and institutional customers is effectively set against the large mill selling house.

So far as I am able to observe, the structure of synthetic and woolens markets is essentially the same. In addition, all the textile branches are effectively linked by possibilities of substitution among many of their fabrics as well as by a common institutional milieu and a common set of business expectations.

Effect of Market Structure: A Special Case of Competition

Although a competitive market structure is a necessary condition for the recurrent development of speculative buying movements it is by no means a sufficient condition, and the usual analysis of pricing under conditions of pure competition reveals no tendency for the development of such movements. The task of the following analysis, therefore, is to demonstrate that there may be inherent tendencies for speculative buying movements to develop in competitive markets under certain conditions, movements which will carry price and output above the equilibrium levels dictated by underlying consumer demand and which will result in subsequent periods of adjustment (recession). These conditions are as follows: (1) There is one-sided speculation (no futures market for cloth exists). (2) Buyers (principally converters) are monopolistic competitors in their own selling markets. (3) Manufacturers sell not only goods which have already been produced but also make sales contracts for goods which will be produced during future months.

This special case is offered as a relevant model for explaining how market structure may render the industry susceptible to recurrent buying movements. The analysis is not presented as a complete theory of the cycle, for no explanation is given of the "starters" which set off buying movements or of the exact combination of forces which bring them to a close. The tendency toward overbuying is presented only as an important factor contributing to instability.

Significance of the absence of a futures market (one-sided speculation). Where there is no futures market, as in the case of textiles, a set of conditions will prevail under which price and output movements are not limited to changes necessary to establish short run equilibrium. Should there be a division of opinion among buyers of cloth regarding future prospects, pessimistic buyers can do nothing to give expression to their anticipations other than to stand aside

from the market; therefore, highly optimistic anticipations on the part of a portion of the buyers will result in a greater tendency for the demand curve to shift to the right than would be the case where a futures market exists. This is in sharp contrast to the situation which would obtain if there were two-sided speculation, for with a futures market individuals who believed the product had become over-priced would not need to stand aside from the market but would enter and sell short, and such action in turn would reduce the price or sharply depress the upward movement.¹²

Significance of the assumption that buyers are monopolistic competitors. Monopolistic competitors, unlike pure competitors may base much of their market strength upon customer relations, a fact which will make them vulnerable to buying movements under certain conditions. Should they at any time be unable to supply customers, the demand for their products may be damaged for an extended period of time (i.e., there is a "cost" incurred when the monopolistic competitor is "caught short" of stocks), and, consequently, any risk of being caught without goods will be given great weight. This would appear to be a reasonably accurate description of the market position of major gray goods buyers (e.g., converters, coated fabric producers) in their own selling markets.

Significance of the assumption that sales are made on a contract basis. Thus far the discussion has been based upon the assumption that only goods which have already been produced are sold in the market place. Such an assumption is implicit in all competitive theory even though such a selling arrangement may not be the most important one found in actual markets. In the industry under study, contracts for future delivery of goods are by far the most important method of trading, although transactions in produced goods do take place in considerable volume.

The significance of the assumption that sales are made on a contract basis calling for future delivery is that such sales permit trading to be projected into the future during speculative buying movements. Optimistic cloth buyers, an-

¹² *Pure competition with two-sided speculation* (a futures market). Essentially, the role of a futures market is to provide a maximum opportunity for every individual in the market—buyer, seller or speculator—to give expression to his anticipations regarding future price movements by making futures contracts, contracts for sale and purchase of a standard commodity to be delivered in certain future months. These contracts are made continuously in a central market so that any individual anticipating a price increase may not only hold existing stocks off the present market in order to sell them at a later date or buy existing goods to hold until such a date but may also make a futures contract to accept delivery of goods at the future date (i.e., may buy "futures") if such contract price is below the price which he anticipates will prevail at that date. Conversely, any individual anticipating a price decrease may not only express such anticipations by selling existing stocks, but may also make a contract to deliver goods at that future date (i.e., may sell "futures") if such contract price is above the price which he anticipates will prevail. This type of arrangement will not necessarily result in a perfect adjustment of prices and output to changing demand conditions, but any imperfections which do occur in the adjustment may be expected to arise out of human error in making anticipations. Under two-sided speculation, neither optimistic nor pessimistic anticipations alone may dominate the market and thereby bring about excessive and perverse adjustments in output.

ticipating increases in prices, are not limited to purchasing goods currently available but may buy the future output of sellers.

As shown previously the buying movement begins when a number of buyers cease buying on a fill-in order basis and make contracts with sellers for their output of the months ahead. Such orders are placed not only to provide for anticipated sales requirements but also in order to accumulate inventories. It is at this point that any buyer who is a monopolistic competitor in his selling market faces a situation which predetermines his decision: contracts are being made in the market for much, perhaps all (he has no way of knowing) of the sellers' output for a number of months in the future. He must "cover" at least a portion of his needs to assure himself of goods to meet customers' requirements, even though he may consider prices to be too high in the light of basic consumer demand or costs.

It is impossible to state how strong or weak the buyer's demand will be. It may only be concluded that a force has been exerted which, on balance, makes for a much stronger total demand than could have occurred in the case in which the skeptical buyer could stand aside from engaging in a buying movement, incurring only the risk of the price moving against him but not the risk of finding himself without goods to fill his customers' orders.

In this modified case of competition a situation exists which would appear to render an industry susceptible to the development of buying movements. Any anticipation of an increase in demand will cause speculative buyers to attempt to build up inventories, and such buying will be unchecked by two-sided speculation. Further, since buying extends into future months, buyers who are monopolistic competitors in their own selling markets will see their supplies being closed out by more optimistic buyers and will be forced to step in and buy.

If, as the market reports indicate, sellers deliberately hold part of their future month's output off the market, the situation is aggravated. Supply curves are shifted to the left and reticent buyers are presented with what appears to be additional evidence that they should "cover."

The upper limits of any buying movement which occurs under such conditions may be stated only in a general way: As the buying movement proceeds and prices rise, sellers will offer for sale more and more of their planned future output. Buyers, on their side, will curtail buying as their inventories on hand and on order give them increasing assurance of protecting customer relationships. In general, the end of a buying movement will find all buyers with heavy inventories on hand and with large contracts for future delivery running well into the future.

The Role of Overcapacity¹³

At first glance it would appear that excess capacity would be inconsistent with the occurrence of speculative buying movements since such a condition

¹³ The term overcapacity is used here in the orthodox theoretical sense: The number of firms in the industry is such that under average demand conditions market price does not provide entrepreneurs a going return on investment.

would be expected to bring depressed prices and a highly elastic short run supply schedule.¹⁴ Yet the entire history of the industry's instability has occurred under conditions of overcapacity and long run disequilibrium.¹⁵ The explanation of the paradox lies in the fact that a technical capacity which is excessive as long as purchases proceed on a hand to mouth basis may become inadequate when through efforts of buyers to provide themselves with inventories the consumption needs of an extended period are compressed into a much shorter period of time. The data in Table 3 show very clearly that this is what occurs: Orders rise faster than sales, and order periods are lengthened. Supply elasticities are not infinitely large, and mill margins rise sensitively during buying movements.

I suggest that the existence of overcapacity is not only consistent with the occurrence of speculative movements but is a facilitating condition. The elimination of excess capacity would reduce the output flexibility of the mills and by so doing reduce the short run supply elasticity, with the result that incipient buying movements would be met by sharp price increase. Under such conditions there would not be the same incentive for buyers to stockpile goods as has hitherto been the case.

Perhaps a more important point is that the existence of overcapacity serves to limit the duration of buying movements. Since supply is readily expandable, buyers' current and projected requirements are provided for out of rapidly rising output in a relatively short period, and the trading movement is concluded only to be followed by a period of retrenchment.¹⁶ The above suggests an explanation of the short duration of the textile cycle and of its high conformity to subcycles: the expansion is brief because of the supply conditions which accompany overcapacity, and the recession which follows quickly reaches the stage in which prices are depressed and orders are placed on a fill-in basis. At this point the industry is sensitive to any forces in the economy which would influence buyers' anticipations in an optimistic manner.

IV. RECENT TRENDS

Since World War II cycles in textile output have been less severe. This, of course, has been true of cycles elsewhere in the economy, but it would appear

¹⁴ There is impressive evidence that the marginal cost curve of a textile plant is highly elastic: textile plants vary output by varying the operating days of the week, *not* by varying the number of shifts or men per machine. Excess capacity would tend to aggravate this tendency.

¹⁵ The history of the textile industry since 1919 has been a classic demonstration of movements toward long run equilibrium under conditions of overcapacity accompanied by a series of historical accidents serving to restore the condition of overcapacity. These historical accidents have been the development of textile manufacturing in the South, the discovery of the practicability of the second shift, the development of the rival rayon and synthetics textile branch, the stimulus to increased capacity after World War II, and the discovery of the practicability of the third shift.

¹⁶ Hickman suggested this point in an earlier study. Bert G. Hickman, *Cyclical Fluctuations in the Cotton Textile Industry* (unpublished Ph.D. dissertation, University of California at Berkeley, 1951), pp. 104-105.

that the recent trend in textiles has been at least partially based on internal developments which give promise of a lessened sensitivity to cyclical forces:

A. *Control of stocks.* Mills' stocks have been smaller postwar than prewar at both cycle peaks and troughs (see Table 3). This closer control of stocks reduces one of the depressive forces upon customers' demand during recessions.

B. *Market structure and manufacturers' product policy.* Recent integration may be regarded as a favorable factor reducing the industry's susceptibility to cyclical influences. Although the major result of post-war integration has been to put the integrated firms into additional fabric markets rather than to increase their control over any one market, there has probably been some increase in concentration, and there has been a new emphasis on production of distinctive fabrics accompanied by branding and highly skillful promotional activities. If there are no production economies in these great mergers there are certainly important marketing and promotional economies, and these serve to increase the importance of the mill-finished markets at the expense of the highly competitive gray goods markets.

C. *Overcapacity.* Recently the industry has given evidence of approaching equilibrium. Excess spindlage has been largely removed from the cotton and woolen branches. The synthetics branch has reached a stage in which its rate of growth has slackened, and the entire industry has now almost completely adopted a three shift basis of operation.

It seems probable that integration will continue and that the emphasis on product differentiation and promotion will significantly alter market structure. As the larger houses complete their diversification there will be an even greater emphasis on product differentiation. The result will be an increased assumption of marketing functions and a shortening of channels. There will be a lessened opportunity for the accumulation and deaccumulation of "pipeline" stocks, a reduced role played by the gray goods markets, less flexible prices over-all, and a market structure in which something approaching pure competition is replaced by monopolistic competition or differentiated oligopoly.

In short, the basic structural characteristics which have made the industry so susceptible to cyclical disturbances are gradually being modified, and in the years ahead the industry should be in a position to enjoy a period of relative stability consistent with the general characteristics of its basic consumer and industrial demand.

ECONOMIC MOTIVES IN SOVIET FOREIGN TRADE POLICY

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Recent developments in Soviet foreign economic activities have been sufficiently dramatic to prompt a re-examination of accepted explanations of Soviet motivation and the role of the Soviet economy in its foreign trade. The desire for political gain, disruption of Western alliances and encouragement of neutralism, the strengthening of the domestic economy, and the eventual goal of world Communism are generally regarded as the principal or sole motivating factors in Soviet foreign trade. Economic factors are usually assigned a relatively minor role. A study of trends and characteristics of the Soviet economy, as well as the world economy, suggests that fundamental changes have taken place which tend to elevate the importance of economic considerations.

I. RECENT DEVELOPMENTS

Not only has the volume of Soviet foreign trade expanded during the past four years but there have also been significant changes in its commodity composition and geographic direction. Trade reached its highest level in 1957, 33.3 billion rubles, more than 6 times the 1938 level in "constant prices."¹ Much of the increase is attributable to enlarged trade with Eastern Europe and China, which was negligible in 1938 but in 1957 constituted 74 percent. Trade with primary producing countries has been small but percentage increases have been large. Soviet trade with non-Communist states, conducted through a network of bilateral agreements, remains predominantly with Western Europe, although the exchange of raw materials and agricultural products from underdeveloped countries for Soviet capital goods has been increasing each year.²

During the postwar period the USSR has made loans to Eastern Europe and China of about 30 billion rubles, most of which were negotiated since 1953. In 1953 the USSR began extending loans to primary producing countries. The USSR and Eastern Europe have made commitments of nearly \$2 billion to these countries, including development loans of \$100 million or more to Afghanistan, Egypt, India, Indonesia, Syria, and Yugoslavia, as well as arms loans of \$400 million, principally to Egypt and Syria.³ Moreover, Soviet spokesmen in the past four years have frequently stated their great desire for expanded trade and have averred the considerable mutual economic benefits to be derived

¹ *Vneshnaya Torgovlya*, 1958, No. 4, p. 16.

² V. Alkhimov, "Cooperation Between the USSR and Underdeveloped Countries," *Voprosy Ekonomiki*, 1957, No. 6, pp. 15-29.

³ Robert Loring Allen, "The Soviet and East European Foreign Credit Program," *American Slavic and East European Review*, December 1957, XVI, pp. 433-449, and by the same author, *Middle Eastern Economic Relations with the Soviet Union, Eastern Europe, and Mainland China* (Charlottesville: Woodrow Wilson Department of Foreign Affairs, 1958). A complete listing of credits is given in the *New York Times*, January 4, 1958 and the *Congressional Record*, 103, August 27, 1957.

from trade with USSR. High-ranking officials have pointed to the markets of the USSR and to Soviet technology, skill, and industrial might as well, indicating that rapid industrialization now enables the USSR to assist other countries toward the same development.

II. INTERPRETATION

Soviet foreign trade policy, as an adjunct of general foreign policy, has always performed both economic and political functions. Before the second world war it was used, not always efficaciously, to influence other countries. During and after the war trade was used to bring countries within the Soviet sphere of influence and bind them into a bloc. Soviet political aspirations now dictate that trade policy assist in influencing underdeveloped countries. In this light, recent developments are a natural and necessary outgrowth of the support which foreign economic policy must provide for Soviet foreign aims. The generally accepted explanation of recent activities is that the ruling group, ascending to power in 1953 and following a major reassessment of foreign policy, concluded that Soviet goals could be achieved more readily by abandoning the economic isolationism which previously characterized its attitude toward foreign contacts.⁴

But in addition to supporting foreign policy, traditional Soviet foreign trade policy has also had two principal economic guides: (1) to import necessary capital goods for assisting industrialization and to export only what was necessary to pay for the imports, and (2) to organize foreign trade and the domestic economy in order to eliminate undue dependence on imports. Soviet imports of capital goods have reflected these attitudes and trade was regarded as a necessary evil, to be disposed of as the economy expanded toward self-sufficiency. A dream of autarky predominated.

An apparent paradox, therefore, exists between the aims of foreign policy and foreign trade policy. While foreign policy dictates wider economic relations, Soviet trade policy calls for weakening economic ties now that industrialization is well advanced. Two explanations seek to resolve this paradox. One assigns overriding importance to the political motives of the USSR and maintains that Soviet foreign economic activities are primarily or solely undertaken to influence underdeveloped countries. The other explanation contends that changes in the Soviet economy have demonstrated the high cost of autarky and the economic benefits of trade, prompting Soviet leaders to interpret their autarkic policy with greater flexibility and to encourage increased trade for economic reasons.

The political interpretation is attractive; it fits the facts of Soviet history and behavior patterns. Few would argue, however, that Soviet industrialization has not had an impact on trade policy. On the other hand, it cannot be argued that economic motives alone provide the basis for recent Soviet commercial interests.

⁴Stanley J. Zyzanski, "Soviet Foreign Economic Policy," *Political Science Quarterly*, June, 1958, pp. 206-233 and J. M. Letiche, "Soviet Foreign Economic Policy: Trade and Assistance Program," *Report on the Soviet Union in 1956* (Munich: Institute for the Study of the USSR, 1956), pp. 172-194.

Too many transactions have obvious political aims and involve a cost to the USSR. A combination of political and economic motives, therefore, appears as the most satisfactory explanation of recent Soviet activities.⁵

In order to demonstrate the nature and extent of economic motivation, a working postulate may be adopted: total Soviet product may now be enlarged by exporting increasing quantities of capital goods and importing greater quantities of raw materials and agricultural products. To test this postulate it must be shown that (1) the opportunity costs of manufactured goods have declined relative to the opportunity costs of agricultural products and raw materials, and (2) the terms of trade of capital goods which the USSR exports with respect to primary goods which the USSR imports have not turned so as to offset the change in relative costs. Two other considerations, while not constituting a test of the postulate, are nonetheless illuminating. The trend in commodity composition of Soviet foreign trade and the officially stated policy position display some evidence bearing on the validity of the postulate.

Unfortunately, only a fraction of the data required to test the postulate is available. A time series of costs of production for each significant item produced in the USSR would be needed to know fully the course of relative costs. No such cost data are available and price series must substitute for the cost data. Information on prices of Soviet capital goods exports and primary product imports is necessary to calculate the terms of trade, but world prices must be used in the absence of these data. Furthermore, limited trade data must substitute for a complete analysis of commodity composition. Bits and pieces of information on the character of the Soviet economy, its production and planning system, rates of growth, and official policy must take the place of completely adequate data.

III. FOREIGN TRADE TRENDS

In total Soviet exports machinery and equipment have claimed an increasing share from 1928 through 1955. In 1913 and 1928 such exports were negligible but by 1938 they were 5 percent of total exports. By 1950 the percentage had more than tripled. In 1955 the USSR was exporting more than 22 percent of its total exports as capital equipment. In 1956 machinery and equipment exports of the USSR in comparable prices were 20 times their 1938 level, although the capital goods share in total exports declined to 17 percent. The USSR now claims to have become "the world's largest supplier of complete units of equipment for industrial enterprises and individual shops being built in other countries."⁶

Reflecting the pressure of population which no longer permits large-scale grain exports, the proportion of grain in total Soviet exports has declined since

⁵ Klaus Knorr, *Ruble Diplomacy: Challenge to American Foreign Aid*, Memorandum No. 10 (Princeton: Center for International Studies, Princeton University, November, 1956), Donald R. Hodgman, "Soviet Foreign Economic and Technical Assistance," in *Recent Soviet Trends* (Austin: Committee on Eastern European Studies, University of Texas, 1956), and others emphasize heavily the political aspects of Soviet activities.

⁶ *Vneshnaya Torgovlya*, 1957, No. 11, p. 36.

TABLE 1
COMMODITY COMPOSITION OF SOVIET EXPORTS AND IMPORTS, 1913-1955*
(Percentages)

Item	1913	1928	1938	1950	1954	1955
<i>Exports</i>						
Machinery and equipment	0.3	0.1	5.0	16.3	21.5	22.1
Fuels, raw materials	42.8	63.1	57.7	50.7	58.5	59.9
Coal	0.1	0.6	1.0	0.3	1.1	1.3
Petroleum and products	3.3	13.5	7.8	1.5	4.2	6.4
Ferrous-nonferrous metals	0.6	0.8	1.6	12.6	18.2	15.2
Lumber	6.3	6.8	14.1	2.0	2.6	3.2
Other timber	4.5	5.1	6.0	0.9	1.0	1.5
Cotton	—	—	1.9	11.7	12.1	11.3
Fibre-flax	6.2	3.1	1.7	0.5	0.1	0.1
Furs	0.4	15.1	9.4	3.3	1.2	1.5
Other	21.4	18.1	14.2	17.9	18.0	19.4
Grain	33.3	3.3	21.3	18.5	12.2	10.3
Consumer goods	23.6	33.5	16.0	14.5	7.8	7.7
Meat, dairy products, eggs	12.0	13.1	0.3	4.6	0.1	0.3
Sugar	1.8	4.3	2.5	1.0	0.9	0.8
Fabrics	3.0	6.5	4.8	2.7	1.6	1.6
Other	6.8	9.6	8.4	6.2	5.2	5.0
	100.0	100.0	100.0	100.0	100.0	100.0
<i>Imports</i>						
Machinery	15.9	23.9	34.5	27.1	32.6	33.0
Fuels, raw materials	63.4	67.8	60.7	56.6	46.2	48.0
Coal	5.5	0.1	—	2.3	3.7	3.1
Petroleum products	0.4	—	1.2	5.5	3.3	2.8
Ores and concentrates	0.1	—	2.6	1.7	3.6	4.2
Ferrous and nonferrous metals	6.8	13.7	25.9	9.3	5.8	5.3
Natural rubber	2.9	2.5	3.5	3.8	0.4	0.8
Cotton	8.3	16.3	1.8	0.2	0.2	0.6
Other textile raw materials	10.0	10.3	7.9	5.5	6.8	5.4
Peanuts, soy beans, and other oil seeds	0.1	—	0.1	3.1	3.6	3.6
Other	29.3	24.9	17.7	25.2	18.8	22.2
Consumer goods	20.7	8.3	4.8	16.3	21.2	19.0
Meat, dairy products, eggs	0.7	—	0.3	1.9	6.0	4.2
Sugar	—	0.1	0.0	3.8	1.9	2.9
Fruit, vegetables	2.8	1.8	1.9	1.0	1.6	1.5
Fabrics	2.7	0.1	0.4	4.7	4.3	3.2
Other	14.5	6.3	2.2	4.9	7.4	7.2
	100.0	100.0	100.0	100.0	100.0	100.0

* *Narodnoe Khozaistvo SSSR: Statisticheskii Sbornik*, Tsentral'noe Statisticheskoe Upravlenie . . . SSSR (Moscow, 1956), p. 217.

1938. In 1955 these comprised 10 percent of Soviet exports, as compared to nearly 22 percent in 1938. Consumer goods exports have also declined steadily as a proportion of total exports. In 1928 consumer exports were 34 percent of total exports, only half that in 1938, and in 1954 and 1955 they were 8 percent of the total.

On the other hand, Soviet imports of consumer goods and some primary products have been increasing relative to total imports. Consumer goods were 5 percent of total imports in 1938; the share quadrupled by 1954 and 1955. Some categories of raw materials, such as coal, have claimed an increasing proportion of total imports. In 1928 and 1938 coal imports were negligible; in 1954 they were nearly 4 percent. Prior to 1938 petroleum products were 1 percent or less of total imports; in the postwar period such imports reached 3 to 4 percent. Ore imports have also steadily increased proportionately in the postwar period. Peanuts, soybeans, and oil seed imports in 1938 were negligible but since the war they have claimed 3 to 4 percent of total imports.

The USSR remains a substantial net importer of capital goods. Machinery imports were about the same proportion of total imports in 1954 as in 1938. These imports reflect the continued heavy requirements of Soviet industrialization, even though the proportion of Soviet machinery requirements supplied by imports has been steadily declining.⁷ These imports also indicate the growing specialization of trade, in which the USSR imports highly technical and specialized equipment from Western Europe while simultaneously exporting simpler types of capital goods to primary producing countries.

IV. RELATIVE COSTS

The structure of the Soviet economy has been radically altered by industrialization. Total output contains a greater proportion of industrial products and industrial sectors have acquired a relatively larger amount of the total capital stock and labor force of the economy. This emphasis on industrial products has enabled these sectors to achieve economies of scale. Further economies have resulted from a more highly skilled labor force and management. The introduction of more capital equipment has led to reductions in costs. The extractive industries and agriculture, on the other hand, have faced a relatively more inelastic supply situation. Within limits, the supply of land is fixed and raw materials sectors have expanded output by producing from less accessible, poorer, and more costly deposits. Institutional factors, such as collectivization, have likewise retarded growth in agriculture and have increased costs. In gen-

⁷ *Ibid.*, p. 4. Two more recent sources tend to confirm the trends mentioned above and show a continuation into 1956. There are, however, some divergences between them and the Table I source. "The Soviet Union's Foreign Trade After World War II," *Vneshnaya Torgovlya*, 1958, No. 4, pp. 18-32, by G. Rubenstein, A. Fokin, and V. Azov, presents a great deal of new information and a somewhat different structure of imports and exports. These may be explained in part by a different classification and inclusion of re-exports, *Narodnoe Khoziaistvo SSSR v 1956 godu, Statisticheskii ezhegodnik*, Tsentral'noe Statisticheskoe Upravlenie... SSSR (Moscow, 1957) p. 239-240, contains a table similar to Table I but with some different figures. There is no explanation of any of these differences in the Russian literature.

eral, then, while industrialization proceeded, the costs of production of capital goods have fallen relative to the costs of production of the output of agricultural and extractive industries.

Prices: The history of Soviet prices tends to confirm this conclusion. The Soviet price system is extremely complex and has not yet been fully analyzed. Centralized planning has injected an element of arbitrariness in setting prices and changes in prices have sometimes appeared to be equally arbitrary. Prices for heavy industry have been kept low purposefully through subsidies to encourage larger output. Agricultural and food products prices are likewise difficult to interpret because of the turnover tax, the sumptuary nature of price setting, and the ambiguity of land rent in the Soviet economy.⁸

On at least three occasions, in 1932, 1936, and in 1949-1950, the USSR has had major price reforms. It is now generally accepted that while the USSR has not been particularly concerned with short-run divergences between price and costs, an effort has been made at discrete intervals to rationalize the price system so that prices reflect costs as nearly as possible. The periods 1928-1935 and 1941-1948 were characterized by large subsidies to Soviet industry. The price increases of 1936 and 1949-1950 were designed to bring prices back into line with costs.⁹ Therefore, over the entire period from 1927 to 1950 the distortion of prices may not have been so great as to make them useless.

All prices have risen considerably since 1927, especially in the most recent period. Prices of industrial products as a whole were in 1950 slightly more than twice those of 1940 and five and one-half times higher than in 1928. The prices of many significant semi-finished and raw materials in the industrial products category (iron ore, blast furnace products, coal, coke, timber, lumber, wood products) have risen higher than the group as a whole since 1940. The prices of food and agricultural products have advanced phenomenally over the entire period. In addition, following Stalin's death in 1953, procurement prices of

⁸ Naum Jasny, *The Soviet Price System* (Palo Alto: Stanford University Press, 1951) is a discussion of some of the intricacies of Soviet pricing. There is a developing controversy among Soviet economists on the role of prices in the Marxist law of value. At the meeting in December, 1956, of the Institute of Economics of the Academy of Sciences, much of the discussion was devoted to this problem, as reported in *Voprosy Ekonomiki*, 1957, No. 2, pp. 71-121, and *Dengi i Kredit*, 1957, No. 3, pp. 40-49. Polish economists have recently argued that prices should reflect supply and demand and be used to allocate resources (W. Brun, "On the Role of the Law of Value in a Socialist Economy," *Ekonomista*, 1956, No. 5). Soviet economists have vigorously attacked this position but argue that prices should be planned, with some exceptions, to reflect costs and that "prices have been considerably brought into line with value." (L. Gatovsky, "On Utilizing the Law of Value in a Socialist State," *Kommunist*, 1957, No. 9.)

⁹ Abram Bergson, Roman Bernaut, and Lynn Turgeon, "Prices of Basic Industrial Products in the USSR, 1928-1950," *Journal of Political Economy*, August, 1956, LXIV, p. 303, argued that "at least the postreform price cannot be wholly lacking in economic content. The most limited inquiry makes it clear that the Soviet price-fixing under the reforms and after and also about 1928 (prior to the institution of the stable price policy) was actually fairly complex and certainly involved a consideration of rather conventional economic factors, such as costs and the need to stimulate production or substitutions." See also A. Maisenberg, *Tsenoobrazovanie v narodnom khoziaistve SSSR* (Moscow: Gospolitizdat, 1953), Chapter VIII.

TABLE 2
PRICE INDICES OF SELECTED ITEMS (1940 = 100)

	1927	1928	1930	1932	1936	1937	1944	1948	1949	1950
1. Basic Indust. Prod.	—	37	—	36	—	83	—	106	250	212
2. Bricks	—	42	—	—	—	57	—	170	400	308
3. Cement	—	51	—	44	—	79	—	100	218	165
4. Chemicals & related	—	50	—	44	—	90	—	138	191	137
5. Coal	—	28	—	31	—	60	—	100	314	310
6. Coke	—	28	—	27	—	72	—	100	332	332
7. Peat	—	30	—	46	—	70	—	100	199	199
8. Elec. power industry	—	60	—	62	—	88	—	98	198	178
9. Fuelwood, lumber, wood prod.	—	57	—	55	—	100	—	109	392	339
10. Iron and steel	—	47	—	44	—	78	—	101	128	184
11. Iron ore	—	46	—	47	—	68	—	100	276	276
12. Nonferrous metals	—	29	—	25	—	45	—	122	186	178
13. Iron nonfer. alloys	—	17	—	14	—	29	—	135	167	165
14. Blast furnace prod	—	36	—	33	—	72	—	100	302	242
15. Steel, rails, railway	35	—	35	—	81	—	—	—	399	—
16. Steel, rolling	26	—	25	—	56	—	—	—	336	(269)
17. Steel, structural	44	—	40	—	94	—	—	—	250	(200)
18. Lumber	15	—	13	—	100	—	—	—	322	230
19. Timber	100	—	80	—	100	—	—	—	602	430
20. Automobiles	—	—	—	—	—	94	—	—	348	(279)
21. Generators (1936 = 100)	121	—	—	107	100	—	150	—	310	(248)
22. Horizon. tube boiler	—	—	—	—	—	—	—	—	124	(99)
23. Horizon. tube boiler	—	—	—	—	—	—	—	—	120	(96)
24. Horizontal boiler	—	—	—	—	—	—	—	—	119	(95)
25. Horizon. mill. machinery (1936 = 100)	—	—	—	—	100	—	—	96	121	(97)
26. Heaters (B.2)	—	—	—	—	—	92	—	100	137	(110)
27. Heaters (B.6)	—	—	—	—	—	80	—	100	169	(135)
28. Lathes (300 x 1500)	—	—	—	—	100	—	—	97	158	(126)
29. Lathes (150 x 750) (1938 = 100)	—	—	—	—	72	—	—	—	88	(70)
30. Machinery	57	—	51	—	74	85	—	111	154	108-114
31. Motors (I-LO)	—	—	—	107	—	107	189	—	318	(254)
32. Motors (120-21)	—	—	—	95	89	100	—	—	238	(190)
33. Motors (120-31)	—	—	—	104	97	100	—	—	202	(163)
34. Pumps (Goroo)	—	—	—	—	—	67	—	—	133	(106)
35. Radiators	40	—	—	—	—	52	—	100	165	(132)
36. Steam turbine (AT-25-2)	—	—	—	163	—	—	—	—	327	(262)
37. Tractor (NATI)	—	—	—	—	—	—	244	—	322	(288)
38. Tractor (S-65)	—	—	—	—	95	—	—	348	348	(279)
39. Transformer (1936 = 100)	—	—	—	104	100	—	—	107	—	—
40. Transformer (1936 = 100)	—	—	—	108	100	—	—	102	224	—
41. Trucks (6AZ-AA)	—	—	—	—	80	—	—	117	275	(220)
42. Trucks (ZIS-5)	—	—	—	—	100	—	125	—	240	(192)
43. Turbine steam (AP-25, K2)	—	—	—	154	—	—	—	—	348	(279)
44. Water Meter	—	45	—	—	—	100	—	100	183	(146)
45. Beef	5	—	6	—	50	—	—	150	167	115
46. Bread (rye-common)	8	—	8	—	85	—	—	270	300	200
47. Butter	8	—	12	—	61	—	—	219	246	154
48. Eggs	7	—	9	—	53	—	—	187	187	159
49. Flour 3rd grade	9	—	8	—	100	—	—	232	258	163
50. Milk	10	—	11	—	56	—	—	152	152	137
51. Shoes, men's leather	5	—	5	—	47	—	—	153	153	130
52. Soap, laundry	13	—	11	—	97	—	—	420	420	252

Parenteses indicate a computed 20 percent decline. See footnote 9. 1 through 15: Abram Bergson, Roman Bernaut, and Lynn Turgeon, "Prices of Basic Industrial Products in the USSR, 1928-1950," *Journal of Political Economy*, August 1956, p. 323. 15-19, 48-52: Naum Jasny, *The Soviet Price System* (Stanford University Press, 1951), pp. 168-169, 20-48: Naum Jasny, *Soviet Prices of Producers' Goods* (Stanford University Press, 1952), pp. 166-170.

agricultural products (cotton, flax, hemp, livestock, etc.) have increased sharply. Machinery and equipment items have not increased in price as rapidly as raw materials. The Jasny general machinery index in 1950 was 15 percent higher than that of 1940 and only twice as high as 1927. The price revisions of 1950 reduced machinery prices to about 70 percent of the 1949 level. These same revisions reduced prices of automobiles and tractors by nearly one-fourth.¹⁰ Admittedly, price changes for individual items of equipment do not always show a systematic pattern, but in general the increases for the more highly fabricated goods have been smaller than for industrial raw materials and agricultural products. An unweighted index of equipment items is 173 for 1950 on a 1940 base. Bergson's index for industrial products is 241 for the same period.

Among the items which Bergson, Bernaut, and Turgeon studied, it is evident that the nearer the item to the extractive stage, the greater the price change. Between 1928 and 1950 the prices of industrial products as a whole rose 569 percent. Price rises *below* this average include the following fabricated products: cast iron pipe, nonferrous and secondary aluminum ingots, nonferrous rolled products, inorganic chemicals, pigments, paints, varnishes, ordinary and quality rolled steel, miscellaneous metals products, cement, and industrial power. Price rises *above* include: coal, coke, lime, turpentine, bricks, blast furnace products, peat, iron ore, lumber, and wood products—all nearer the extractive stage. Coal, coke, and iron ore are among those with the highest price increases. Electric power, chemicals, and metal products figure among those with the lowest price increases.

Specific machinery prices have advanced less rapidly than raw materials and food products. All but one of the prime movers had price increases between 1927-1928 and 1950 below that of Bergson's industrial product index for the same period. The index of industrial products for 1950 stood at 569 over that of 1928. The index of 1950 over 1927 for trunkline locomotives was 563, rolling stock 465, oil engines 459, locomobiles 406, freight cars 393, steam turbines 384, diesels 276, tractors 185, construction machinery 125, and trucks and automobiles 94. Prices of small hydroturbines declined from 100 to 78 between 1939 and 1949 and even more in 1950.¹¹

Qualitative Evidence: One basic reason for greater relative economies in manufacturing has been the reluctance of the USSR to undertake costly model changes or even develop its own models. It is a well-known practice of the Soviet regime to copy foreign models, a much cheaper expedient which avoids costs of initial design, testing, and small-scale production stages. Familiar American, German, and British automotive equipment and other machinery models have been so reproduced without model changes for a long period. The ZIS-5 truck was first manufactured in 1934 and was still in production in 1950. Other types of equipment are produced without changes for a decade or more. Standardization of equipment and parts has been carried to an extreme in

¹⁰ Naum Jasny, *Soviet Prices of Producers' Goods* (Palo Alto: Stanford University Press, 1951), pp. 140-141.

¹¹ Richard Moorstein, *Prices of Prime Movers in the USSR* (Santa Monica, Calif.: RAND Corporation, RM-1225, 1954).

Soviet equipment industries. A whole factory, for example, concentrates on a single model of tractors. As Jasny observes, "The combination of these factors could not fail to affect production costs favorably."¹²

Industrialization in the USSR has lagged behind that of the United States, Great Britain, and Germany. Cost-reducing innovations and new techniques and products were common knowledge when the USSR began to industrialize. The USSR has had a substantial advantage in its development simply by adopting the most recent technology. After laying the foundation for its industry, the USSR then had only to tap the latest advances made in Western countries through imports, technical and scientific journals, and the use of Western technicians to avoid the costs incurred by the West.

In the raw materials sector the USSR has followed the practice of every other country which has industrialized rapidly. The cheapest and most accessible resources were used first, gradually moving to deeper and less easily obtainable deposits. The result has been that, despite great investments, the output of extractive industries has become markedly more costly. Increasing beneficiation of ores has been necessary throughout Soviet mining industries, with iron ore a particular problem. Remaining deposits at Krivoi Rog and Kerch are powdery and contain harmful impurities. Lead and zinc ores, as well as bauxite, now imported in large quantities from Hungary, have also become a problem. Coal and coke have been subject to very substantial cost increases since 1928. Shaft mining has become necessary in the Donets Basin and the percentage of open strip mining is steadily decreasing. Mining techniques in the Kuznets Basin have left a large amount of coal in the ground. Many coal mines have become increasingly subject to flooding. The ratio of lignite to total coal mined in the USSR is large and steadily increasing. Except in the Pechora Basin above the Arctic Circle, the USSR has little coking coal and has had to rely increasingly on Polish coal for metallurgical purposes.

Agriculture, the "Achilles heel" of the economy, has been treated as a step-child in Soviet efforts to industrialize rapidly. The collectivization deemed necessary for controlling the agricultural population has been very costly and inefficient. Agricultural investment has been seriously neglected as well, especially prior to 1953. Consequently yields have been low on the limited amount of arable land in the USSR. Unfavorable topographic characteristics also impose an increasing cost when agricultural production expands. Production has barely kept pace with population growth and the seriousness of the problem is indicated by the drastic measures undertaken since 1953 to increase both production and acreage. Procurement prices have been raised substantially and more investment has been allocated to agriculture. Additional measures include the corn-hog program and a "new lands" project which seeks to cultivate land up to or beyond the adequate rainfall margin. These are all expensive measures with no certainty of success.¹³

¹² Naum Jasny, *Soviet Prices of Producers' Goods*, p. 129.

¹³ Lazor Volin, *A Survey of Soviet Russian Agriculture* (Washington: U. S. Department of Agriculture, 1951). Joseph Kershaw in "Recent Trends in the Soviet Economy," *The Annals*

The deliberate emphasis on heavy industry throughout the process of Soviet economic development has resulted in a distorted relationship between industrial production and raw material and agricultural production. This distortion occurs as a cost which the USSR willingly absorbs in order to attain its present industrial power and military prowess. This cost is borne in turn by sectors of the economy whose potential output cannot be reached because of insufficient investment. While the cost cannot be avoided, it can be reduced somewhat by importing primary products.

As the Soviet economy has increased in size, the demands of the industrial pipeline and inventories assume greater cost importance. Serious cutbacks and delays at heavy costs are involved unless there is a steady flow of raw materials to enterprises in the USSR. Despite the most careful planning, it is not always possible to maintain an even flow from domestic sources. Having increasing quantities of raw material imports and the ability to acquire such imports on very short notice could well represent a substantial cost savings to the economy.

It has also become increasingly difficult and costly to plan the capital building program so that supply and demand are matched at all times. The USSR can achieve economies by selling some kinds of temporary "surplus" capital goods on the export market. Then, when the planned rate of growth in the capital goods consuming sectors reaches the point where they can utilize all of the output of the capital building sectors, exports would cease. Thus, the USSR might need a turbine industry of a given capacity in 1963 which will take several years to build. While the industry is building up its plant to this expected 1963 demand, other sectors may not require enough turbines to make the plant's interim operations economical. In addition to imbalance between capital building and capital consuming sectors, the USSR is also not immune to the operations of the acceleration principle. Despite the most careful planning there is still a magnified repercussion on the capital building sector when the rate of growth of final products slows down. The USSR has tried to soften the consequences through built-in flexibility in plants but shut-downs and operating at less than capacity are unavoidable. Trade is a way to keep all plants operating efficiently at all times.

V. TERMS OF TRADE

Even if it could be established irrefutably that there has been a shift in Soviet relative costs, it does not necessarily follow that the USSR will now gain more from trade by exporting more capital goods and importing greater quantities of raw materials. If the prices at which the USSR sells its capital goods exports have fallen relative to the prices at which the USSR buys raw materials, then the USSR may not benefit from a changed pattern of trade. The USSR, however, has no independent foreign trade pricing system. In most cases world

of the American Academy of Political and Social Science, January, 1956, pp. 37-49, as well as Gregory Grossman, "Soviet Agriculture Since Stalin," in the same issue, pp. 62-74, paint a bleak picture of the prospects for Soviet agriculture. Kershaw suggests increased trade as a possible solution (p. 49).

prices are accepted; in some cases bilateral agreements allow departures from world prices. In the absence of Soviet price data, world prices must be used as an approximation.

The terms of trade of primary producing countries with industrial countries were 148 in 1954 on a 1938 base. Between 1948 and 1954, however, the terms of trade of primary producing countries with industrial countries improved only 14 percent. This gain was partly erased between 1951 and 1954 when these terms declined 9 percent.

The world trade price index for primary commodities declined from 118 in 1951 (1953 = 100) to 102 in 1956 and the agricultural non-food index declined from 147 to 101 in the same period. On the other hand, the world trade price index for manufactured products was the same in 1956 as it was in 1951 and 1948. Between 1953 and 1956 the primary product index has declined 1 percent; the manufactured goods index has increased 3 percent. Thus in the period during which an increase of Soviet export of capital goods and larger imports of raw materials occurred, the terms of trade both of industrial with primary producing countries and manufactures with primary commodities improved.¹⁴

Kindleberger's exhaustive study for European trade concludes that the terms of trade have turned against underdeveloped countries and in favor of the developed. His study is for the period 1872 to 1952, but the same conclusion holds for 1928 to 1953. A discrepancy arises in an examination of the terms of trade of primary products with manufactures, which have been against manufactures. The trend, however, is small, and within the margin of error. Furthermore, between 1928 and 1952 there is a slight improvement in the terms of trade of manufactures with primary products. Furthermore, Kindleberger recognizes the acknowledged fact that while the quality of primary products is constant over time, there has been a steady and substantial improvement in the quality of manufactures. No quantitative studies have been made but the gains to all countries resulting from quality improvements have been recognized as more than adequate to offset even major apparent improvement in the terms of trade of primary products. Even ignoring this factor and despite small discrepancies, limited information, and confused classification systems, Kindleberger still asserts, "It is a fair conclusion that in the European context the terms of trade favor the developed and run against the underdeveloped."¹⁵

The use of bilateral agreements with primary producers also provides the USSR with an opportunity to improve its terms of trade. The USSR can purchase large amounts of such items as cotton or rice, even at a price higher than the market price as long as the selling country must buy Soviet exports at negotiated prices. If the USSR were to enter the open market to purchase large quantities of primary products, its action would probably increase the market

¹⁴ *World Economic Survey, 1955* (New York: United Nations, 1956), pp. 63-66, 183-194; *World Economic Survey, 1956* (New York: United Nations, 1957), p. 184; *Statistical Yearbook, 1957* (New York: United Nations, 1957), pp. 434-435.

¹⁵ Charles P. Kindleberger, *The Terms of Trade: A European Case Study* (New York: Technology Press-Wiley, 1956), pp. 233-239.

price, while simultaneously Soviet export sales in market competition would probably command a lower price than is obtained under trade agreements.

VI. OFFICIAL STATEMENTS

The overwhelmingly expressed sentiment in the first two decades of the Soviet regime was the desire for economic self-sufficiency. Imports, especially of capital goods, were necessary to achieve industrial power, a precondition of self-sufficiency required for defense against "capitalist encirclement." In these early days Stalin stated, "We must construct our economy in such a way that our country does not become an appendage to the world capitalist system . . . that our economy shall develop not as a supernumerary of capitalism but as an independent economic entity."¹⁶ This basic proposition still stands as a fundamental tenet, but the conditions which gave rise to it—the superior economic power of hostile capitalist countries, an economically and politically weak USSR, and a tradition of involvement with capitalist countries, both in Tsarist and early Soviet regimes—no longer prevail in the same degree. The importance of strict interpretation of the autarky policy has been attenuated.

The emergence of the USSR as a leader of a bloc of nations has also had a profound effect on its attitude toward international economic relations. Eastern European and Chinese trade has been reoriented to the USSR and other members of the bloc. International specialization has received official blessing for countries within the socialist camp. The official economics textbook in 1954 stated, "The socialist division of labor permits individual countries to avoid parallel development of the most important branches of industry and agriculture. . . . Each country can concentrate its assets and efforts on the development of those branches for which it possesses more favorable natural and economic resources."¹⁷

During the past three years the USSR has increasingly adopted the view that mutual benefits were to be derived from trade among all nations. In 1956 Mikoyan said, "The time is past when the Soviet land of socialism was isolated and when we were an oasis in the capitalist encirclement. . . . We proceed from the belief that our trade with capitalist countries is profitable to both sides, conditioned by the very necessity of the division of labor."¹⁸ There is no intention on the part of the USSR, however, to become inextricably dependent upon basic supplies not under its control. There also can be no doubt that recent statements, as well as activities, clearly imply a willingness to interpret the policy of autarky in a less rigid manner.

VII. CONCLUSIONS

The bulk of available information tends to support the view that the structure of the Soviet economy has changed so that capital goods costs are declining

¹⁶ Joseph Stalin, Statement to the 14th Party Congress, December 1925.

¹⁷ *Politicheskaya Ekonomiya-Uchebnik* (Moscow: Institute of Economics, Academy of Sciences, 1954), p. 391.

¹⁸ A. I. Mikoyan, Statement to the 20th Party Congress, February 1956.

relative to the costs of raw materials and agricultural products. The structural change, along with improved terms of trade, foreign trade trends, and policy statements, indicate that increasing capital goods exports and increasing raw materials imports may now be economically advantageous to the USSR. Present Soviet foreign economic activities are not simply another weapon in the "cold war" and a political venture which when exploited to the full will be abandoned. Rather, they reflect a permanent change in the Soviet economic position, to be reckoned with henceforth on both political and economic grounds.

Soviet foreign trade policy should not be viewed from the standpoint of either economic *or* political considerations alone. Both are operative. Whereas there is little doubt that political considerations currently appear to have the predominant influence, Soviet foreign trade has always been and will always be used to better its economic position. It is fortunate for the USSR that the present position of its economy is such that economic and political interests coincide in its foreign economic undertakings. Sufficient evidence is available to give credence to the tentative conclusion that the USSR now occupies a new economic position which adds greater flexibility to its foreign policy, magnifies the potency and duration of its economic efforts abroad, and orients the USSR toward expanded economic relations with primary producing countries.

ISRAEL'S EXPORT PROBLEM AND ITS POLICY IMPLICATIONS

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I. INTRODUCTION

During the first few years of Israel's existence, its economic planners placed major emphasis on progress towards the solution of basic long-run problems. These problems concerned economic development, economic absorption of mass immigration, and the economic burden of large defense outlays. While the short-run problem of the unfavorable trade balance was not ignored, it was relegated to second place in Israeli economic planning. A large-scale inflow of unilateral payments enabled the economic planners to carry on their long-run objectives without having to worry too much about the current deficit in the balance of payments. It was generally assumed that once the primary goals were reached, the balance of payments problem would take care of itself.

In recent years, however, there has been a shift in emphasis. State planners are still concerned with the long-run objectives, but are being urged constantly by independent economists to give higher priority in the formulation of investment and other policies to the pressing short-run problem. Perhaps the most important reason for this shift is the prospect of a sharp decline in the inflow of capital within the next few years. At the rate at which the German reparations to Israel are being used up, they will be exhausted by 1963.¹ Private contributions and transfers as well as public capital import will also taper off before long. This decline will seriously interfere with all phases of domestic production, since two thirds of Israel's imports are currently financed by capital import, and local production depends heavily on imported raw materials, spare parts, and fuel.² The only way to minimize the impact on the economy of the transition to a self-supporting stage is by increasing exports.

II. THE PROBLEM OF EXPORT

A model of the Israeli economy, constructed in 1955 by Dr. A. L. Gaaton,³ a senior government economist, is helpful in clarifying the problem. In his model,

¹ The reparation agreement for 821 million dollars was signed on September 9, 1952, and the first shipment of goods under the agreement reached Israel in August 1953. By September of 1957, orders had been placed for about half of the total amount agreed upon.

² Imported materials form 28 per cent of the total value of Israeli production. They enter into the production of consumption, investment, and export goods to the extent of 22, 41, and 48 per cent respectively. See Nadav Halevi, *Estimates of Israel's International Transactions, 1952-1954* (Jerusalem: Falk Project for Economic Research in Israel, 1956), p. 44; and *Bank of Israel Annual Report for 1956* (Jerusalem: 1957), p. 46. Statistical tables, describing the composition of capital import into Israel, are available from the author upon request.

³ A. L. Gaaton, "Foundations for Economic Independence," *The Economic Quarterly* (Hebrew), October 1956, Vol. 4, pp. 24-44. Also, A. L. Gaaton, "Increased Immigration and the Balance of Payments," *The Economic Quarterly*, November 1957, Vol. 5, pp. 22-26. Statistical tables, describing the model, are available from the author upon request.

Dr. Gaaton analyzes the implications to the Israeli economy of a gradual decline in the inflow of capital to an annual rate of \$50 million by 1963. The model is based on the following assumptions: (a) a 15 per cent increase in population (both from immigration and natural increase) during the eight-year period terminating in 1963; (b) no scarcity of manpower throughout the period; and (c) capital influx totaling \$1420 million during the period 1955-1962. Based on these fairly realistic assumptions, the author concludes that if Israel is to maintain its present living standards, total domestic production will have to increase by 49 per cent, while exports will have to rise by 340 per cent by 1963. These figures, however, assume that the increased export can take place at the present export prices. On the assumption of a 20 per cent decline in export prices, Gaaton's model suggests that the physical volume of gross national product would have to rise by 60 per cent, and the physical volume of exports by 430 per cent.

Implied in the last figure is the need for both an increase in production, and a shift in the orientation of production. Thus far, production has been oriented toward the local market. Producers regard exports as merely a necessary but not desirable addition to their production for the local market; necessary to gain the favor of the government and to obtain access to imported raw material. This attitude will have to be reversed. The recent performance of the Israeli economy⁴ indicates that such a reversal can be accomplished only by concerted economic measures designed to remove the following obstacles to the expansion of exports: (1) basic shortcomings in the industrial structure; (2) low productivity and high production costs; (3) inflationary pressures; and (4) problems connected with the development of export markets.

III. IMPEDIMENTS TO EXPORT

A. The Structure of Industry

Two structural impediments to export can be recognized. First, there are shortcomings arising from past misdirection of investments, and second, there are difficulties arising from the smallness of the average production unit.

Over 60 per cent of total investment in Israel is carried out by the central and local governments and other public bodies. Through its administrative control over foreign exchange and import, and through its policy of according preferential treatment to "authorized" investments, the government is also influential in channeling private investment activity. For ideological, social, and security reasons, government investments in the past were concentrated in

⁴P. Dolberg, for example, in her article: "Export and Economic Independence" (*The Economic Quarterly*, March 1957, Vol. 4, p. 197) points out that between 1955 and 1956 there has been virtually no increase in the proportion of value added of export to the import for local use (in millions of dollars):

	1955	1956
1. Total imports of goods and services	443	520
2. Imports for production of export goods	69	75
3. Imports for local use	374	445
4. Value added of exports	73	88
5. Item 4 as per cent of item 3	19.4	19.8

agriculture, in the provision of basic facilities for industrial development and in the development of basic mineral and other resources. The major part of industrial development was left to private initiative.⁵

In planning its development program, the government never had any clear-cut economic criteria for setting up investment priorities. There is strong evidence that consciously or unconsciously, there existed among government planners some tendency towards autarchy. At any rate, it is clear that many industries were developed with complete disregard of the principle of comparative costs. Even in fields where development was undertaken by private initiative, which should have been directed by market forces, there was not much regard for that principle. This occurred because of the various price distortions which existed in the economy. Prices of productive factors in Israel bear hardly any relation to their relative scarcity. The relative scarcity of land is not manifested in high rent because all land belongs to the nation and is provided cheaply to agricultural settlers. The relative scarcity of capital is not evidenced in high interest rates, because cheap investment capital is obtainable from government sources. Also, there exists an upper legal limit of 11 per cent⁶ on all loans, which are rationed through a system of qualitative credit controls. At the same time the black market interest rate often exceeds 20 per cent. Capital goods can be purchased abroad cheaply (after government authorization) because the official exchange value of the Israeli pound is maintained on an artificially high level by a complicated system of exchange control. Finally, the relative abundance of unskilled labor in no way results in low wages because of pressure from the powerful Federation of Labor Unions.

Some of these price distortions can be justified in terms of long-range developmental needs and in terms of needs for balanced growth. For others, there is no economic justification. They resulted in many investment projects which are of questionable value to the economy.⁷ In many cases a dollar saved to the country by the product of these investments—either as an export item or as an import substitute—costs over I£ 6, while the official exchange rate is only \$1 = I£ 1.8.

The second type of structural shortcoming is the small size of the average industrial production unit. In the 1952 industrial survey, 20,302 establishments

⁵ In 1956, percentages of government participation in the financing of investments in various sectors of the economy were as follows: Agriculture—75; industry—30; electricity—80; minerals and oil—65; services—65; residential housing—35; transport—85 (*Bank of Israel Report for 1956, op. cit.*, p. 93). For estimates and analysis of Israel's national income and its components, see Daniel Creamer, *Israel's National Income, 1950-1954* (Jerusalem: Falk Project for Economic Research in Israel and Central Bureau of Statistics, 1957).

⁶ The interest rate law of March 1, 1957 raised the maximum rate from 9 to 11 per cent. Loans to agriculture and industry, however, are still subject to a maximum rate of 10 per cent.

⁷ This is exemplified by the establishment of certain heavy industries (e.g., a steel mill), and by the erection of plants with an excessive degree of capital intensiveness, in spite of the relative abundance of labor and relative scarcity of capital. See I. Horin, "Planning of Export," *The Economic Quarterly*, November 1957, Vol. 5, pp. 51-55; and M. Gilboa, "Criteria of Rentability, Production and Investment," *Ibid*, pp. 73-93.

were enumerated, employing 100,275 workers. The survey showed that 97 per cent of all establishments employ fewer than 20 workers.⁸ This large number of very small establishments results in a high cost of production both to the individual producer and to society.⁹ Moreover, such small enterprises are by their very nature oriented toward the local market. They lack the organizational and financial prerequisites necessary to engage in export, and will not be helped by the proposed creation of export associations.¹⁰ The establishment of large plants in the processing industries, completely oriented toward export, is mandatory.

Economic writers who consider structural shortcomings the most important obstacle to export (as against those who emphasize the obstacles discussed in the forthcoming sections) claim that the only solution to the problem lies in large-scale government entry into industrial production. They call on the government to revise its investment program and drastically curtail building activity, investment in basic facilities, and development of basic resources. They propose that over the next eight years the government invest I£ 100 million annually in manufacturing plants. These plants could start production three years later (on the average) and would yield an average ratio of value added to investment of 1:2. At the current exchange rate for export (including subsidies) this would be equivalent to an annual export of \$120 million six years from the beginning of the program.

Although the government may be willing to embark on such a program,¹¹ it is questionable whether its entry into the sphere of industrial production on a large scale will produce the necessary results. Apart from possible unfavorable effects that such an enlargement of the public sector may have upon incentives of private investors, the government has yet to prove itself as an agency which, without the profit motive, can allocate resources to the best advantage of the economy. Moreover, the government is far from having exhausted the possibilities of channeling private investors into desirable avenues of production through the use of monetary and fiscal policies and through its direct influence on private investments.

⁸ Emanuel Levi, *Israel Economic Survey, 1953-54* (Jerusalem: The Economic Department of the Jewish Agency, 1955), p. 99.

⁹ Production costs are high in such organizations because of underuse of capacity, excessive overhead costs, irrational division of labor, an unnecessarily large number of service workers and intermediaries, and the like. See M. Merhav, "The Structure of Industry and its Development," *The Economic Quarterly*, October 1956, Vol. 4, pp. 122-134.

¹⁰ Suggestions have been made by numerous writers that exporters in various industries form associations in order to centralize their export operations. These associations would be designed to eliminate the small and inefficient exporter. (In 1957, for example, 80 per cent of all industrial export was done by 5 per cent of the exporters, while 20 per cent was marketed by many small operators. *Haaretz*, August 21, 1957.) But they would not solve the problem of inefficient production caused by small producing units.

¹¹ In August 1957, the minister of commerce and industry submitted a plan to Parliament, which calls for some I £ 538 million investments in industry during 1957-1961. For a critical evaluation of the plan see Dr. Y. Shlus, "Industrialization for Mass Immigration," *Haaretz*, August 14, 1957. See also E. Kunin, "The Importance of Size," *The Economic Quarterly*, July 1957, Vol. 4, pp. 440-445.

That the government is already following such a policy is evident from the change in the composition of investments between 1955 and 1956. It appears that investments in industry, electricity, and minerals, which are important for closing the balance of payments gap, rose from 24 per cent of total investments in 1955 to 30 per cent in 1956. From this and other evidence, it has been concluded that "some progress was made in 1956 in the methods of evaluating the profitability—particularly with respect to the effect on the balance of payments—of investment projects whose sponsors wished to obtain government assistance."¹² More substantial progress in this direction can be achieved without an increase in the share of the public sector in industry, and without completely sacrificing basic developmental projects.

In addition to the shortcomings discussed above, there exists a basic deficiency in the occupational structure of the labor force. Over 43 per cent of the working population engage in services, as compared to 38 per cent who work in agriculture and industry.¹³ In an underdeveloped economy, such a distribution is detrimental to the attainment of a high measure of productivity, and therefore to the ability of the country to become self-supporting. For the most part this phenomenon is a result of the occupational structure of the new immigration, and cannot be rectified in the short-run. Only to the extent that this deficiency is attributable to the price distortions that exist in the economy can it be remedied by the policies suggested below.

B. High Costs of Production

High costs of production, and primarily high labor costs, are another obstacle in the way of expanding exports. Various studies have shown that, accounting for labor productivity, labor costs in Israel far exceed those in other countries.¹⁴ Attempts to reduce real wages by raising domestic prices (e.g., through exchange depreciation) are doomed to failure because of the automatic link between money wages and the price index. Most labor contracts include escalator clauses providing for periodic adjustments of money wage rates to the cost of living index. In addition, the policies of the powerful Federation of Labor Unions make for rigidities and immobilities in the labor market which prevent the introduction of more efficient methods of production,¹⁵ and which are detrimental to an economy engaged in large-scale development and resettlement. It is the claim of union leaders that high production costs are a result of improper organization of production and high prices of services (other than labor). This ignores the fact that labor is the major cost item, ac-

¹² Bank of Israel Annual Report for 1956, *op. cit.* p. 93.

¹³ These estimates are based on the labor force surveys of the Central Bureau of Statistics, Jerusalem. Statistical tables are available from the author upon request.

¹⁴ See Shlomo Riemer, "Inflation in Israel," *Public Finance*, 1957, Vol. 8, pp. 240-278.

¹⁵ In 1957, for example, there was a strike in the largest textile factory in the country (ATA), which lasted for several months. The major cause of the walkout was the management's insistence on its right to lay off workers in order to increase efficiency. For a discussion of Israel's labor movement, see Margaret Plunkett, "The Histadrut: The General Federation of Jewish Labor in Israel," *Industrial and Labor Relations Review*, January 1958, Vol. II, pp. 155-183.

counting for 65 per cent of total value added produced in Israeli industry. While all costs must be cut in order to make Israeli products more competitive abroad, the major cut would have to be in real wages.

High labor costs, as well as the relative cheapness of both investment funds and foreign exchange (for the importation of investment goods), have had other undesirable repercussions in the economy. First, they have resulted in excessive capital intensity in certain industries. A large portion of the available investment funds was devoted to over-mechanization of a limited number of plants. There is no justification for this on the basis of existing factor proportions. Second, the price distortions have created a considerable amount of unemployment. A select group of workers with permanent jobs enjoy artificially maintained high wages while large sections of the population cannot find employment. The state, unwilling to tolerate unemployment, hires them to work on projects which are of questionable priority and sometimes totally unproductive. This policy results in a situation of disguised unemployment, and a considerable burden on the state's budget.

A vicious circle has thus resulted in the realm of industrial production: the distortions of relative prices led to the establishment of plants with unwarranted capital intensiveness. High costs of production prevent export, while scarcity of raw materials (and limited domestic demand) prevents production for the domestic market. This results in under-utilization of capacity which in turn contributes to high cost of production.

In attempting to cope with this problem, the government has followed a mild and fragmentary approach, consisting primarily of subsidization of export. Two types of subsidy are in force: First, exporters are allowed to use their earned dollars for the purchase of raw materials. These materials can then be used in production for the local market where goods are sold at higher prices to compensate exporters for possible losses in their export business. The second method is a direct subsidy of I£ 0.7 for each dollar of value added earned. The exchange rate for exporters is thus changed from \$1 = I£1.8 to \$1 = I£ 2.5. The exporter can choose whichever method is preferable to him. Other methods of support include cheap credit for export, and a system of trade agreements. The agreements permit exporters to sell their products at prices higher than those obtainable on world markets, but importers in turn must pay higher than world prices for imported goods. These higher prices are in fact a disguised export subsidy.

Other measures frequently employed by the government are largely stop-gap in nature. An outstanding example are the periodic attempts to prevent a rise in the cost of living index. Since money wages are adjusted to variations in the index every three months, the government attempts to halt the price increase when a period of adjustment approaches.¹⁶ This is done by such means

¹⁶ In December 1957, for example, the government increased certain food subsidies with the aim of reducing the cost of living index by 2-3 points. This was done because the November index showed a 9-point increase over the first half of the year, and most labor contracts call for a wage increase if the index rises by at least 7.5 points during a six month period (*Haaretz*, January 22, 1958).

as accelerating (cheap) import of products which weigh heavily in the index, increasing subsidies to local producers, and imposing artificial price controls.

These measures have not been sufficient. Over the past three years the cost of living and both money and real wages has continued to rise.¹⁷ The gradually increasing export subsidies merely offset cost increases, and high costs of production continue to plague exporters. The government ought to replace its stop-gap approach by an over-all consistent policy designed to cut production costs and raise productivity. In particular, the automatic link between money wages and the cost of living should be abolished or at least made more flexible. This would make it possible to cut real wages through an increase in prices. Price increases can be brought about by greater reliance on the market mechanism in the pricing of products and factors of production. This would involve a downward adjustment in the external value of the pound; an increase in the rate of interest; abolition of the price subsidies which impose a considerable burden on the state's budget (over I£ 30 million in 1957); and abolition of the disguised export subsidies or at least their replacement by direct subsidies.

Of particular significance is the adjustment of the exchange rate. Depreciation can be brought about by the adoption of a dual exchange rate—one fixed, the second fluctuating. The fixed rate would be used for the importation of the most essential consumer and investment¹⁸ goods, financed by government income from unilateral transfers. All other international transactions would be carried out at the depreciated free market rate. This would bring about a rise in import prices which would in turn curtail imports, but must not be allowed to affect money wages. If wage rates were linked only to the prices of bare necessities, the depreciation would result in a decline in real wages. Both costs of production and domestic demand would thus be cut, facilitating an expansion of export. At the same time, the depreciation would bring about a decline in prices of Israeli produces abroad. This scheme would replace the existing cumbersome and arbitrary system of import duties and export subsidies. Together with the other proposed measures, it would introduce greater economic rationale into decisions of consumers, investors, and exporters.

C. Inflationary Pressures

While local demand for many products is far from sufficient to keep Israeli industries operating at full capacity, there are constant inflationary pressures operating in the economy which tend to increase demand and divert export goods to local consumption. In part, these pressures originate in factors exogenous to the economy, such as large-scale government expenditures for

¹⁷ Average consumer price index for January–June (September 1951 = 100) rose from 229.5 in 1955 to 244.1 in 1956 and to 261.2 in 1957. Average money wages (1955 = 100) rose from 108.4 in January–June 1956 to 118.7 in July–December 1956 and to 123.7 in April–May 1957. Real take-home pay rose by 3 per cent between January and May 1957. *Bank of Israel Bulletin* (Jerusalem: December 1957).

¹⁸ The list of essential consumer goods should contain only bare necessities, and should not be subject to change by administrative decision. Likewise, clear-cut criteria should be established for the selection of "essential" investments.

defense, immigration, and economic development. These spendings result in a large public sector exceeding one quarter of the gross national product, and in a substantial budgetary deficit. In part, however, the inflation is caused by factors indigenous to the economy, such as the labor unions pressure to raise wages or the lack of savings.¹⁹

We have already examined the effects of wage increases on the economy. Among the factors responsible for the shortage of private saving are expectations of further inflation, lack of confidence in the currency, an artificially maintained low interest rate, and the absence of a well-developed security market in the country. Another important factor is the effect of a relatively equal income distribution. The recently completed Israeli Survey of Consumer Finances reveals a sharp rise in the savings rate with an increase in income. Close to 80 per cent of all personal saving in the economy was done by the top income decile, while the lowest five income deciles actually dissaved during 1954.²⁰

While too unequal distribution of income may be detrimental to economic growth (as is the case in many underdeveloped countries), there is little doubt that income distribution in Israel is considerably more equal than would be optimal for economic progress. This equality has unfavorable effects on the incentives to work and save.²¹ Demands are therefore voiced to replace the existing system of remuneration with one containing higher incentives. But such changes are not acceptable to the parties in power. Instead, the government has attempted to remove other obstacles to saving by issuing bonds with value linked to the value of the dollar. In addition, certain established companies were successful in raising capital funds through the stock market. These actions fall considerably short of what is needed.

The inflation is manifested in a substantial rise in the means of payments in the economy. Total money supply rose by some 80 per cent between 1953 and 1956, and the central bank is subjected to constant pressure from the industrial community to further increase the total volume of credit in the country in order to provide industry with operating capital and to increase domestic demand, thus bringing about better utilization of existing capacity. Clearly this is not the answer to the problems plaguing Israel. Provision of operating capital

¹⁹ In 1956, public consumption amounted to I £ 689 millions out of gross national product of I £ 2817 millions. Net private dissaving in that year approximated I £ 1 million (out of disposable income of I £ 1849), while the government dissaved I £ 170 million. The large public dissaving is attributable in part to the unusually large defense spending connected with the Sinai campaign. In 1955, public dissaving amounted to I £ 78 million.

²⁰ The Survey was conducted in 1954 by the Israeli Institute for Applied Social Research. See M. Sandberg: "Gross Personal Saving in 1954," *Bank of Israel Survey* (Jerusalem: August 1957), pp. 53-81, and "Income Distribution and Its Effects on Savings and Consumption," *The Economic Quarterly*, March 1957, Vol. 4, pp. 225-239. Statistical tables are available from the author upon request.

²¹ See M. Sandberg, "Income Distribution and Economic Development," *The Economic Quarterly*, November 1957, Vol. 5, pp. 27-46. To a large extent, salaries in public institutions in Israel are determined by the number of dependents of the employee, rather than by his job responsibilities.

through credit extension would provide only temporary relief, while increased domestic demand would drain the foreign exchange reserves through its impact both on the import of raw materials and on the inducement to export. Moreover, some of the increased demand would probably be directed to industries which do not have sufficient capacity, and may result in bottlenecks. In an underdeveloped economy it is not always possible to bring about economic expansion through expansion of monetary demand. The government is also subject to increasing pressure from industry to follow a line of commercial policy which would enable industry to operate in spite of high production costs. This too would contribute to the inflation.

There exists ample evidence that the government and the central bank realize the possible effect of such policies. In 1952, the government attempted to control the inflation by introducing a new set of monetary and fiscal measures.²² The measures proved successful for a year or two (even though they were not completely adequate) until, under the pressure of events and interest groups, the government started deviating from its declared policy. Currently the government lacks a consistent over all policy to control the inflation.

It is only a comprehensive program that can restrain the inflation to the extent of providing a proper environment for increased export. Such a program should include fiscal and monetary restraints, even at the expense of eliminating certain social services. The price mechanism should be allowed to play a more important role in pricing of products and of productive services. And finally, the program should include inducements to saving, so as to free additional resources for investments and exports.

D. Development of Export Markets

Creation of a domestic environment conducive to export is a necessary but not a sufficient condition to expanding exports. The government faces the task of helping exporters to develop new foreign markets and expand old ones, particularly for industrial commodities.²³ This would involve acquainting exporters with foreign consumption patterns, facilitating prompt delivery of orders, and familiarizing foreign consumers with Israeli products. A start in this direction has already been made by advertising campaigns in foreign countries, and participation in foreign exhibitions. The trade agreements program is also helpful in acquainting foreign consumers with Israeli products. But the eventual aim of the policy should be the attainment of conditions in which Israeli products would be competitive abroad without the subsidy hidden in the trade agreements. Some progress was made in that direction between 1955 and 1956 with an increase from 57 to 63 per cent in the proportion of total exports

²² See my article, "Controlled Inflation in Israel, 1949-1954," *Journal of Political Economy*, April 1956, Vol. LXIV, pp. 111-127. Also, David Horwitz, *Economic Thought and Economic Policy in Israel* (Tel-Aviv: Am Oved, 1958) pp. 43-73 and 149-176.

²³ At the present time, about 24 per cent of Israel's exports is destined to the United Kingdom; 43 per cent to other Western European countries; 14 per cent to the United States and 19 per cent to other countries. Industrial products form one quarter of Israel's exports. The remainder consists of agricultural products (mainly citrus) and diamonds.

destined to countries with transferable currencies.²⁴ As Israel's trading partners become more solvent and less willing to enter into trade agreements, the challenge of developing "free" export markets will become increasingly difficult.

Israel also has an interest in joining the trade organizations now being formed in Western Europe, such as the free trade area. Exclusion of Israel (whose products are already banned from most middle eastern markets) from these schemes would substantially worsen her competitive position in some of her main export markets. But before the country can be considered for membership in any one of these organizations, it has a long way to go in liberalizing its foreign economic transactions.

IV. CONCLUSION

Economic progress in underdeveloped areas can take place either through the use of domestic savings or by utilization of foreign savings. During the first decade of its existence, Israel was fortunate to have had access to a considerable amount of foreign resources. It appears, however, that the availability of these resources is likely to drop during the next few years. In view of this impending decline, the adoption of concerted economic measures designed to bridge the gap in the balance of payments becomes very urgent.

Much can be done with existing capacity. Reduction of production costs, restriction of domestic demand, and creation of an environment more conducive to export, can accomplish a great deal in increasing production and diverting it to export. These adjustments can be brought about by fiscal and monetary restraints, relaxation and simplification of existing controls, and greater reliance on the price mechanism in the allocation of resources and distribution of the total product. Additions to capacity should be dictated to a greater extent by the principle of comparative advantage.

In the final analysis Israel will have to adjust itself better to relative factor proportions in the economy. Israel's comparative advantage is in trained and intelligent workers as well as in ability to adapt the technical achievements of western nations. To compensate for relative scarcity of capital and raw materials, both real wages and profit margins would have to be lower in Israel than in some western nations. Foreign trade would occupy a large share of the national economy.²⁵ The export trade would be dominated by large processing industries which utilize both local and imported raw materials.

In the long-run, the proposed program would result in a reasonably high and maintainable standard of living. But in the short-run there is no escape from reduction in living standards, which would free resources for investments and for exports. Reducing the standard of living in Israel is a difficult task par-

²⁴ Dollar and sterling countries, Belgium, Sweden, Western Germany, and Switzerland. Most of the remaining exports were sent to countries with which Israel has trade agreements.

²⁵ See S. Kuznets, "Economic Development of Small Countries," *The Economic Quarterly*, November 1957, Vol. 5, pp. 3-12. Also E. M. Bernstein, "Economic Policy for a Working Economy—The Case of Israel," *Bank of Israel Survey* (Jerusalem: August 1957), pp. 9-54.

ticularly because of the strong demonstration effect which exists among the population. Previous attempts to bring about forced savings through a system of suppressed inflation, involving price control and rationing as well as compulsory loans, have not been successful. A more direct and incisive approach is called for, which would require a great deal of political courage.

THE NATURE OF PUBLIC DEBT

A Review Article*

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Professor James M. Buchanan has written a compact, thoughtful, and provocative essay which is a healthy antidote for much of the nonsense which has been written about public debt theory in recent years. It was inspired when the author attempted to apply the "new orthodoxy" of Hansen, Harris, Lerner and others to a problem of highway finance. The result of his re-appraisal led him to switch over from the "new orthodoxy" which he formerly espoused to the common or "vulgar" position of the man in the street, which is that public debt is essentially the same as private debt.

The author says that there is little that is completely new or different in his theory; that almost all of its elements are to be found in the classical theory of public debt which he is trying to re-establish. But that position was not set forth by Adam Smith, Ricardo, or Mill; it was not formulated until the latter part of the nineteenth century and "never achieved a mastery of the field" (p. 113). The three men who developed that theory were H. C. Adams, Bastable, and Leroy-Beaulieu, and the latter's exposition contains all the "essential elements of the classical theory." It may be significant that these three men were all interested primarily in the monetary or financial aspects of public finance. One of Buchanan's difficulties is that he does not always distinguish clearly between the monetary analysis and the real or economic analysis. Perhaps representative of that point is his attitude toward the nature of debt itself. On page 98 he states: "Debt issue does tend to increase total wealth, public and private. The nominal amount of money is not reduced, and private people consider the claims to future income represented in government securities to be real wealth." But on page 50 he states that "the creation of debt and the corresponding financing of the public project does nothing toward increasing or adding to the wealth of society," and he repeats essentially the same idea on page 53.

The primary purpose of this essay is to overthrow the basic tenets of the new orthodoxy by establishing three opposite tenets, which are that, "in the most general case:

1. The primary real burden of a public debt is shifted to future generations.
2. The analogy between public debt and private debt is fundamentally correct.
3. The external debt and the internal debt are fundamentally equivalent" (p. 31).

The discussion of shifting to future generations is carried out under four as-

* James M. Buchanan, *Public Principles of Public Debt: A Defense and Restatement*. (Homewood, Ill.: Richard D. Irwin, 1958. Pp. v, 223. \$5.00.)

sumptions: full employment, the borrowing is for real purposes, the amount is so limited that it does not significantly affect interest rates or the price level; and the bonds are bought voluntarily from real savings. In these circumstances "The mere shifting of resources from private to public employment does not carry with it any implication of sacrifice or payment" (p. 34). The bond purchaser is merely making an investment and, all things considered, one which is more desirable than any other available; he is "moving to a preferred position on his utility surface" (p. 35). In this way, then, it would seem that it is possible to acquire a public project, if it is financed entirely by borrowing of this kind, without any sacrifice on the part of anybody and, presumably, without cost or burden to anybody. The difficulty seems to lie in the assumption that the borrowing does not significantly affect interest rates or prices; because it is not significant or measurable the author assumes that it does not exist. Later (p. 99) when this assumption is removed, he says that if inflation does occur the burden is "to be attributed to the *inflation* which is allowed to occur, not to the debt itself." In the analysis of debt creation, it is stated (p. 35) that, "The economy, considered as the sum of the individual economic units within it, undergoes no *sacrifice* or *burden* when debt is created. . . . In the macro-economic model we are not concerned with the individual utilities, but with macro-economic variables." (*Italics in original.*)

When the author comes to consider the servicing and repayment of the debt he holds that, "the taxpayer is the one who *pays*, who *sacrifices* real resources" (p. 42; *italics in original*) when he surrenders purchasing power in order to make transfers to the bondholders. To the argument that the taxpayer's sacrifices are offset by the increased income of the bondholders, he says that this is an error caused by the careless use of national income accounting, which "creates confusion when future time periods are taken into account" (p. 41). He goes on:

Individuals and families are the entities whose balance sheets must be examined if the effects on social decisions are to be determined. The presumed canceling out on the national balance sheet is important if, *and only if*, this is accompanied by a canceling out among the individual and family balance sheets. (*Italics in original.*)

It is not clear why, in the repayment of the debt, the individual and the family are the crucial units while in debt creation individual utilities are disregarded and only macro-economic variables are considered. It seems that the analysis used in considering private debt might be applicable here. In respect to that the author says (p. 61):

The borrower sacrifices some command over resources when he makes the interest payments on his debt. But this is not different in any way from the usual sacrifice involved in any ordinary expenditure. The family sacrifices hamburger which it could have consumed when it chooses to buy ice cream instead. . . . The family who borrows to buy hamburger today sacrifices hamburgers in the future in order to enjoy them now.

So it would seem that, on the basis of the same type of analysis, there is no

more burden when the debt is paid off than when it is incurred; rather, both are ordinary commercial transactions.

In any event, it is difficult to see how, under full employment, there is any net *real* burden on a future generation when taxpayers surrender funds to make transfer payments to bondholders (neglecting the friction involved in making the transfers, which the author is willing to do). The economy is producing at capacity, and the total production gets distributed among the members of that generation in some fashion; what the taxpayers lose the bondholders gain. The difference in views here is probably based on psychological factors. As the author points out in several places, bondholders usually capitalize the future interest payments and thus discount them; they would receive such payments even if there were no public debt since they could have made private investments. Thus their receipt of interest is not dependent on the existence of the public debt. But taxpayers usually do not capitalize their future liabilities and discount future income accordingly and thus the payment of taxes is a greater psychological burden. But if there had been no public debt and no public project, the private investment funds would have gone into private projects and taxpayers would, as consumers, have paid interest on the investment embodied in the price of the goods produced in lieu of the public project. Taxes are more readily identified and thus psychologically more burdensome. Thus the major question is whether these differences in psychological behavior and financial practices constitute a real economic burden. In my opinion they do not.

In discussing war borrowing the author recognizes that the analysis used for the "most general" case does not apply to the "conditions under which the greater part of currently outstanding public debt has been created" (p. 32). That analysis does not apply when the transfer of real resources to the government is involuntary. That includes bond purchases made when goods are not available for purchase. The author does not indicate whether it also includes bond purchases made for patriotic reasons. "The burden of a war must fall largely upon the generation living during the war period. . . . But the conclusion is true only to the extent that taxation or inflation occurs" (p. 30). Suppose that individuals imposed upon themselves the responsibility of saving and buying bonds to the extent necessary to finance the war so that there was no increase in taxes and no inflation. Would that enable the generation living during a war to escape its burden entirely? This indicates the extent to which the discussion of "burden" is a matter of semantics in this connection.

Further, a substantial part of the debt issued during a war is bought under some degree of coercion and is thus a burden to the buyers. But according to Buchanan's theory the taxpayers bear the burden when the debt is serviced or repaid. Is the burden then borne twice?

Buchanan's second major contention is that the analogy between public debt and private debt is fundamentally correct. In this he attacks the extreme position which some have assumed that there are no similarities at all between the two. He shows that in both there is a transfer of purchasing power from creditor to debtor in exchange for a promise to pay in the future. He emphasizes especially

the fact that there are alternative employments for capital investment and that the net worth of bond holders would increase even if there were no public debt (p. 54). The principal difference, already noted, is that creditors capitalize their future income while taxpayers usually do not capitalize their liabilities. As a corollary to this, Buchanan notes (p. 157) that public choices are almost sure to be biased in the direction of borrowing to finance projects from which current taxpayers will benefit.

Generally Buchanan establishes his point here, although his position is not beyond rebuttal nor, in the nature of the case, is it simple or clear-cut. He does not mention a number of points which have a bearing on the analogy. First, there are great differences within the category of public debt. In this country, debts of local government are quite different from the debts of states which, in turn, are quite different from the debt of the federal government. Second, there are several characteristics of the debt of a sovereign nation which distinguish it from private debts; whether or not they change its fundamental nature may be a matter of opinion. The internally held debt of a sovereign nation has these characteristics which are not present in private debts:

1. The debtor can designate the means of paying that debt (legal tender).
2. It can create those means without limit.
3. The creditor has no means of enforcing payment except at the pleasure of the debtor.
4. The creditors are under the jurisdiction of the debtor; they can be, and usually are, made to help pay the debt.
5. The debt instruments have a much greater degree of "moneyness" than the instruments of private debt.

Do all of these add up to a difference in the fundamental nature of the debt? I would be inclined to say they do. At the very least, they are important and significant distinctions.

Buchanan's third major point is that external debt and internal debt are fundamentally equivalent. He assumes "equal ease of transfer" for the payments necessary to service the external debt but recognizes that this may be assuming away a major part of the problem. His discussion of the situation when this assumption is removed is not convincing or realistic.

His argument is that when a country borrows abroad it gains additional resources and thus its total income in the future will be greater than if it had borrowed internally. Out of this increased income it can service the external debt and be in as good, if not a better, position than if it had borrowed internally. Most of my exceptions to this proposition deal with the transfer problem and are as follows:

1. The fact that a country has a greater total income (before debt service payments) does not necessarily mean that it will have greater foreign exchange earnings from which the debt service payments must be made.
2. Almost by definition, transfer conditions will be favorable at the time the debt is incurred; it is possible, and even probable, than when the time comes to service the debt, transfer conditions will be much less favorable. The debtor

country is likely to have difficulty in obtaining the means of payment and the creditor country is likely to be unwilling to receive payment.

3. If, as is probable, the debtor country will want to refund at maturity it will be unable to influence the conditions under which an external debt must be refunded, while with a domestic debt it can, through monetary policy and—as a last resort, pressure on the banking system—“prepare the market” and assure a refunding under satisfactory conditions.

4. A sovereign nation may be forced by conditions beyond its control to default on an external debt, with serious economic and political consequences, while there is no need for such a nation ever to default on its domestic debt.

Again, it is a question whether these characteristics add up to a fundamental difference between the two forms of debt and again I would hold that they do. It is of limited value to have a theory which is valid under ideal conditions and unrealistic assumptions unless we also know what qualifications must be applied under actual conditions and realistic assumptions. The author was willing to accept the “new orthodoxy” in public debt theory until he tried to apply it to a real situation. Then he quickly found that it was not valid and proceeded to formulate a theory which was diametrically opposite to it on all essential points. Perhaps it does not make much difference which theory we take as a starting point. By the time we have modified unrealistic assumptions and made the necessary qualifications and exceptions, we end up at about the same place regardless of the starting point. In either case it is the process of modification, adaptation, and qualification which produces a theory which is valid and workable.

Buchanan considers many topics other than those discussed above. He discusses debt in relation to depression, inflation, and economic stabilization. He considers the problems of when governments should borrow and when and to what extent they should retire debt. In most of these cases I would agree with his analysis and conclusions, although there are some important exceptions. Perhaps this illustrates the fact that economists may agree on many policy matters even though they may disagree on several specific points of theory on which the policies are based.

Despite the above criticisms this book is, in my opinion, a valuable contribution to the literature of public debt theory. It is well written and deals with important issues. The methodology used is sound and represents a net contribution. There are two changes I would have made in this connection. The first would have been a clearer and sharper distinction between the monetary and the real analysis. The second would have been to adopt a more flexible and less dogmatic approach. The subject is so complex and the uses of public debt are so numerous and varied that the truth or the “correct” analysis cannot be attained by attacking or defending simple, sweeping, and dogmatic generalizations.

COMMUNICATION

A NOTE ON EXPORT TAXATION*

Considerable use has been made of the export tax since World War II. In particular, the raw materials boom following Korean hostilities encouraged a number of countries to impose or expand systems of export taxation.¹ Along with other factors, this expanded use has led to evaluation of the merits of the export tax as a cyclical stabilizer for the underdeveloped economy.² The present note does not attempt further evaluation of the export tax from this standpoint. Instead, it is desirable to review briefly some elementary theoretical aspects of export taxation since these have received inadequate attention in the recent literature. The discussion is divided into two parts. A first part reviews the Marshallian proposition that export taxation is symmetrical with import taxation. A second part analyses export taxation where the level of home activity is variable. No account is taken of institutional factors that bear upon the choice of one form of taxation over another; nor is any effort made to compare the incidence of export taxation with that of other taxes.

THE SYMMETRY PROPOSITION

First, let us review the effects of export taxation under the assumptions of the pure theory of foreign trade. An important effect of the assumptions is to confine analysis to trade between countries with fully-employed productive factors. Interferences with trade may affect real income and output; the interferences operate by altering the composition of output and the productivity of fully-employed productive factors at home and abroad. This is stressed because the effects of import and export duties are quite different where the level of economic activity is subject to variation.

With this fact in mind, we turn to the symmetry of import and export taxation. A general tax upon exports will have the same real (as opposed to monetary) effects as a general tax of the same size upon imports. Pigou has stated: "... we can lay it down generally that a tax of so much per cent upon the whole of a country's imports will have exactly the same effects as an equal percentage tax on the whole of her exports."³

The symmetry between import and export taxes obtains in the pure theory

* An earlier version of this note benefited from the criticism of Professor Dwight S. Brothers of The Rice Institute.

¹ See Economic Commission for Asia and the Far East, *Economic Survey of Asia and the Far East, 1951* (New York: United Nations, 1952).

² For a discussion of some length, see E. P. Reubens, "Commodity Trade, Export Taxes, and Economic Development," *Political Science Quarterly*, March 1956, LXXI, pp. 42-70. Also of interest are R. Nurkse, *Problems of Capital Formation in Underdeveloped Areas* (Oxford: Blackwell, 1953), pp. 97-100; P. T. Bauer, *West African Trade* (Cambridge: Cambridge University Press, 1954), pp. 283-99; and W. A. Lewis, *Theory of Economic Growth* (London: Allen and Unwin, 1955), p. 291, pp. 398-9, 403-4.

³ A. C. Pigou, *Public Finance* (London: Macmillan, 1929), p. 202.

of foreign trade because imports and exports are essentially regarded as two mutually dependent sides of a barter transaction. In addition to this basic assumption, two further restrictions are necessary to insure that the real effects of import and export duties can properly be regarded as symmetrical.

First, the expenditure of tax proceeds must be the same whether an import or an export tax is levied. This point, stressed by Marshall, Pigou, and Lerner, was once overlooked by Edgeworth in criticizing Bastable's orthodox view that import and export taxes were symmetrical in effect.⁴ If the expenditure of duty proceeds should differ with the tax which is used, effects properly attributable to the different expenditure pattern may be incorrectly attributed to the form of tax. Second, the tax in question must be a general tax upon imports and exports.⁵ While it would be possible to contrast particular export and import duties of equal yield, differing effects upon the ending composition of exports and imports is the barrier to classifying their effects as symmetrical.

Indeed, a special case has been discussed by E. R. Rolph in which a differential duty upon a particular import is said to have effects that no duty upon a particular export could duplicate.⁶ The special case was developed from an example presented by A. E. Kahn in which Britain exports to the U. S. two commodities, whiskey and woollens. Whiskey, alone, is subject to a twenty per cent U. S. import duty, and the U. S. demand is, for the relevant price range, perfectly inelastic.⁷ Rolph argues that in this situation the initial impact of the U. S. duty on whiskey (for which the U. S. demand is perfectly inelastic) falls, not upon British exporters, but upon U. S. producers of those commodities whose demand decreases as outlays upon whiskey rise proportionately to the

⁴ On this point see Pigou, *Public Finance*, p. 203; A. P. Lerner, "The Symmetry between Import and Export Taxes," *Economica*, August 1936, III (N.S.), pp. 306-13; T. O. Yntema, *A Mathematical Reformulation of the General Theory of International Trade* (Chicago: University of Chicago Press, 1932), pp. 50-2, 105-6. Edgeworth's initial denial of symmetry is to be found in his "Pure Theory of International Values," *Economic Journal*, 1894, IV, p. 435. Although Edgeworth later conceded that the orthodox presumption of symmetry was correct (*Economic Journal*, 1897, VII, p. 307), his *Collected Papers* (London: Macmillan, 1925) refer to a lack of symmetry in the case of some import taxes collected in kind. It appears that Edgeworth contrasted the effects of an export duty collected in export goods with the effects of an import duty collected in import goods where the duty proceeds were not consumed in the private sector. Such a situation amounts, in effect, to expenditure of the proceeds in dissimilar fashions.

⁵ As Marshall put it, "...the two taxes would have the same effect; provided that they were evenly distributed, equal in aggregate amount, and their proceeds were expended in the same way." Alfred Marshall, *Money Credit and Commerce* (London: Macmillan, 1923), pp. 180-1.

⁶ Earl R. Rolph, *The Theory of Fiscal Economics* (Berkeley: University of California Press, 1954), pp. 194-9.

⁷ A. E. Kahn, "The Burden of Import Duties: A Comment," *American Economic Review*, December 1948, XXXVIII, p. 860. The purpose of Kahn's example was to show that, under the assumed conditions, American whiskey consumers would bear the entire amount of the tax. In an earlier article, Rolph had contended that domestic consumers of articles subject to the tariff do not bear the tax. See "The Burden of Import Duties," *American Economic Review*, December 1946, XXXVI, pp. 788-812. Rolph reiterates this contention in *Theory of Fiscal Economics*.

tax. Instead of a tariff reducing the foreign exchange available to finance exports, in the Kahn-Rolph case of a differential duty on a product in perfectly inelastic demand, a tariff could initially leave export earnings unaffected. Rolph insists that in this case an import tax does not serve as an indirect device to tax exports which is true enough granted the peculiar assumptions of the example.⁸

A more important point of distinction between particular import and export duties lies in the different nature of their protective effect. A duty upon a particular import will encourage an expansion in the domestic output of items substitutable for the taxed import. This output expansion may be termed the duty's protective effect. A range of exported commodities experience an eventual contraction in output because of the import duty's effect upon the amount of home currency available to foreign purchasers. We may anticipate that, in the final equilibrium, a benefit has been conferred upon a narrow segment of home industry while a generalized burden has been placed upon a range of export industries.

On the other hand, a duty upon a particular export will encourage an expansion in the *foreign* output of the taxed export. A range of domestic industries producing items competitive with the imports may now expand output because of the export duty's effect upon the amount of foreign currency available to domestic importers. However, in the case of an export duty, the initial protective effect is experienced abroad rather than at home, and such expansion of domestic output as does occur will be general rather than specific. This suggests that where a directed expansion of home industry is desired, a selective import tax may prove to be a more effective (if not defensible) means than would an export tax.⁹

All of this is not to dispute the symmetry of general import and export taxes under the assumptions of the pure theory of foreign trade. Nor would we deny that useful insights are gained from recognition of the symmetry between import and export taxation. The possibility of a single country's influencing its benefit from trade applies equally to export and import duties.¹⁰ Furthermore, effects of the tariff upon the distribution of domestic income could be duplicated, in theory, by a general export duty of equal size.¹¹

⁸ In fact Rolph urges (p. 198) that in this special case an import tax subsidizes the export industries with the "subsidy" consisting of factor movements into the export industries from those industries whose product is foregone by whiskey drinkers. By similar reasoning an export tax would "subsidize" foreign activity.

⁹ On the other hand, domestic raw-material processing industries might be developed more readily with export taxes.

¹⁰ For a demonstration that expressions for optimal import and export duties are the same, see I. M. D. Little, *Welfare Economics* (Oxford: Clarendon Press, 1950), pp. 239-40; and Marcus Fleming, "The Optimal Tariff from an International Standpoint," *Review of Economics and Statistics*, February 1956, XXXVIII, p. 6.

¹¹ This follows from Meade's demonstration that export and import duties work the same change upon domestic production and consumption patterns. See *A Geometry of International Trade* (London: Allen and Unwin, 1952), pp. 45-6. The conclusion is limited to the case of general duties upon exports and imports in the two-factor, two-commodity model made familiar by Stolper and Samuelson and by Metzler.

However, the assumption of general taxes is crucial to the symmetry argument. Every set of particular duties upon imports (or exports) may have different effects upon the composition of trade. We believe this fact robs the symmetry proposition of practical significance.

EXPORT TAXATION AND DOMESTIC ACTIVITY

The above discussion of the symmetry of general taxes upon imports and exports refers to the real effects of the duties. It has often been observed that while the real effects of equivalent general taxes upon imports and exports will be symmetrical, the monetary effects will be different. For example, Meade writes:

Thus, provided always of course that the same use is made of the revenue from the two duties, a 10 per cent general import duty will have exactly the same real effect as a 10 per cent general export duty; the only difference will be that with the export duty the exchange value of the country's currency must be depreciated by 10 per cent as compared with its position with the import duty.¹²

Meade assumes, in this connection, that income is stabilized at full employment levels and that a flexible exchange rate clears the foreign exchange market. Meade presses the symmetry argument a stage farther than did Marshall, Pigou, and Lerner, when he contends that one would expect general taxes upon either imports or exports to be deflationary.¹³ Superficially, at least, this view conflicts with the orthodox presumption that import taxes are inflationary, export taxes deflationary.¹⁴ However, it is Meade's assumptions of constant home expenditure and balanced trade that account for the difference between his results and the orthodox view.

Let us assume that domestic fiscal and monetary policies do *not* maintain continual internal equilibrium, but, rather, that home expenditure and activity are variable. Further, let us assume that over considerable periods of time export and import values can differ. Then we may inquire into the effects of general import and export duties where the duties (and the expenditure of duty proceeds) themselves are designed to affect the level of home activity. This surely is the short-run context in which export taxation currently operates.

A number of additional simplifying assumptions are advisable. Fixed exchange rates are assumed between the duty-levying country and the rest of the world. The duty-levying country consumes and produces at increasing cost two commodities for which domestic demand curves are negatively sloped. One of the commodities is exported, the other is imported, and some imports and exports continue after trade taxation. Temporarily, we assume infinite foreign price elasticity of demand for the export good and of supply for the import good. Consequently, import and export taxes will not affect the terms of trade;

¹² J. E. Meade, *Trade and Welfare* (London: Oxford University Press, 1955), p. 166.

¹³ *Ibid.*, pp. 159-63.

¹⁴ See, for example, G. Haberler, "A Survey of International Trade Theory," *Special Papers in International Economics*, No. 1 (Princeton University, 1955), p. 52; and J. Robinson, *Collected Economic Papers* (New York: A. M. Kelley, 1951), pp. 195-6.

the duties will cause domestic prices to differ from world prices. Domestic prices are assumed to be positively correlated with home expenditure so that from any initial equilibrium, more expenditure raises prices, less expenditure lowers prices. All repercussions from abroad are ignored.

The effects of export and import duties upon home expenditure and activity are special cases of the influence of relative price changes upon expenditure and activity. The influence of relative price changes upon expenditure has received extensive discussion without very conclusive results.¹⁵ For the limited purpose of contrasting the effects upon home activity of export and import duties of equal size, we assume total money expenditure to be unaffected by (small) changes in relative prices. Export and import duties divert money expenditure as between commodities but are assumed to have zero effect upon saving. If, for example, expenditure upon a taxed commodity increases, expenditure upon another commodity decreases by the same amount.

Let us first take the case of an import duty. Since a single demand function is postulated for the import commodity, it is certain that money outlays upon domestic production will increase after an import duty is imposed. Total money outlays upon the import commodity (including duty proceeds) may rise or fall depending upon the price elasticity of demand for the import commodity. In any event, the diversion of expenditure from foreign to home output offers an initial stimulus to home production and prices.¹⁶ This initial stimulus will be magnified through the operation of a money income multiplier.

A similar line of analysis may be applied to export duties. After the imposition of an export tax, there is a decrease in money expenditure upon the export commodity. The decrease is due to the certain reduction in foreign outlays (inclusive of duty proceeds) upon home production. As a consequence of the diversion of exportable supplies, price in the home market falls, home outlays upon the export good rise or fall depending upon the price elasticity of home demand. Because of smaller money expenditure upon home output, a downward multiplier effect upon home income occurs compounded of reduced production and prices.

Under the assumed conditions and ignoring the disposition of duty proceeds, import and export duties have different directions of effect upon home activity with an import duty stimulating, and export duty repressing, home activity. The disposition of duty proceeds matters very much as far as the total effect upon activity is concerned. One would expect import duty proceeds to be spent upon domestic goods and export duty proceeds not to be spent upon domestic goods where the purpose of the levies was a maximum influence upon the level

¹⁵ Two early treatments that deserve special attention are: G. Ackley and D. B. Suits, "Relative Price Changes and Aggregate Consumer Demand," *American Economic Review*, December 1950, XL, pp. 785-804; S. Laursen and L. A. Metzler, "Flexible Exchange Rates and the Theory of Employment," *Review of Economics and Statistics*, November 1950, XXXII, 281-99.

¹⁶ For analysis of the employment effects of the tariff under somewhat different assumptions, see M. C. Kemp, "Tariffs, Income and Distribution," *Quarterly Journal of Economics*, February 1956, LXX, pp. 139-55.

of home activity. Export duties imposed as foreign demand increases, lessen the inflationary impact upon home output as the duties divert export income to the government. It is necessary, then, to utilize duty proceeds so as not to increase the demand for home output if the maximum deflationary effect is to be achieved. However, there are purposes other than that of influencing the level of home activity and export and import duties may, for example, replace other forms of taxation at a fixed level and allocation of government expenditure.

Special conditions of foreign demand and supply have been assumed. Where foreign demand for exports and supply of imports are less than perfectly elastic, duties will exert some influence upon the external terms of trade. Thus an import duty may depress the world price of the import good, an export duty may increase the world price of the export good. Where this occurs, at least two possibilities deserve mention.

First, the improved terms of trade increase real income and in the absence of money illusion affect expenditure from a given money income. It can be argued that expenditure from a given money income decreases because the short run average propensity to save varies directly with income. This possibility was ignored above where it was assumed that total money expenditure was unaffected by (small) changes in relative prices. We would not argue that the effect of the terms of trade upon expenditure is unimportant. The effect is uncertain and, in addition, could hardly depend upon whether an import or export duty achieved a given change in the terms of trade and real income. The terms-of-trade effect upon expenditure is not crucial to the present argument.

Second, the possibility should be noted that an export duty could lead to increased rather than decreased money outlays upon home production.¹⁷ Where restriction of home output leads to an increase of a given percentage in world price, a lesser percentage decrease in quantity sold by the taxing country in world markets will mean larger foreign money outlays (including tax revenues). Total money outlays upon home production after the export duty depend upon the proportion of duty proceeds spent at home. It is clearly possible that an export duty (and expenditure of duty proceeds) might stimulate home activity where the improvement in the terms of trade was substantial. Our earlier judgment that export duties were deflationary (neglecting effects of the expenditure of duty proceeds) is thereby modified. An import duty that affected the terms of trade would be deflationary only in the unlikely event that outlays upon home goods declined by an amount greater than the domestic expenditure of duty proceeds.

CONCLUSION

The major conclusions of this note may be summarized as follows:

(1) If traditional assumptions of the pure theory of foreign trade are granted, equivalent general taxes upon exports and imports have symmetrical

¹⁷ C. P. Kindleberger, *International Economics* (Homewood: Irwin, 1953), p. 216.

effects. However, the symmetry proposition applies only to general taxes thereby limiting the proposition's application significantly.

(2) Where the related assumptions of fixed home expenditure and the equality of home income and expenditure are removed, export taxation tends to be deflationary, import taxation tends to be inflationary.

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BOOK REVIEWS

Robert Torrens and the Evolution of Classical Economics. By Lionel Robbins.
London: Macmillan and Co.; New York: St. Martins Press, 1958. Pp. xiii,
367. \$7.50.

This interesting and useful book fills yet another gap in the history of thought in that fascinating period when economic ideas must have been as exciting to popular imagination as are developments in the physical sciences today. Robbins is to be commended for providing all students of intellectual history with this careful study.

Why has Torrens been among the "neglected British economists"? Several reasons may be suggested. First, he wrote no single systematic treatise; his talents were more suitable to topical discussion of particular issues. Secondly, he does not appear to have been an especially attractive man, either in his personal behavior or in his argumentation. Thirdly, there was a certain inconsistency in his thought in at least two important areas. This characteristic is perhaps explained in part by the length of his productive period. Finally, his work was dominated by that of Ricardo although in many respects it is superior. The greater clarity of Torrens' thought on several issues comes through in this study in spite of Robbins, who is, among modern neo-classical economists, a relatively strong defender of Ricardo.

Torrens made contributions to the theory of value and price, monetary theory and policy, the theory and policy of colonization, and to the theory of international trade and commercial policy. These separate topics constitute the organizational outline of the book. Torrens shares with Ricardo the credit for the first explicit formulation of the theory of comparative costs, and Robbins considers his primary unique contribution to be the proof that, under certain conditions, the unilateral reduction of a tariff may not be to the interest of a country. Put in the more normal way this proposition states that an increase in a tariff may, under certain conditions, so shift the terms of trade in favor of the tariff-raising country as to offset the disadvantages caused by a less efficient utilization of domestic resources. Torrens used this argument in support of reciprocal agreements and especially to suggest a Zollverein for the British empire.

Torrens strongly opposed the Bullionist Report and yet some thirty years later he became the champion of the Currency School in the famous controversy preceding the passage of Peel's Banking Act. In my opinion, Robbins somewhat overemphasizes Torrens' reversal of views in this connection. At least in the statements cited, Torrens does not appear to have ever suggested, even in his anti-bullionist days, a convertible note issue without effective safeguards. His earlier efforts were in support of a nonconvertible issue, and while there is certainly a considerable shift in his thinking, a reconciliation of the earlier and later positions does seem possible.

His work on value and price theory is clearly superior to that of Ricardo.

He did not accept the Ricardian attempt to base value on the quantity of labor and instead adopted a quantity of capital theory which, in effect, was quite similar to Smith's cost of production theory.

The text of 258 pages is followed by a 90-page Bibliographical Appendix in which each of the known works of Torrens is listed and the contents briefly described. This should be helpful to scholars since some of the items are extremely rare. Interesting parts of the appendix are the brief excerpts from Torrens' two novels, excerpts which are perhaps sufficient to explain why he became an economist.

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JAMES M. BUCHANAN

Humanist versus Economist: The Economic Thought of Samuel Taylor Coleridge. By William F. Kennedy. Berkeley and Los Angeles: University of California Press, 1958. Pp. 96. \$2.00.

In this monograph, the ideas of Coleridge provide a basis for a general commentary on the contrast between the humanistic and the "scientistic" aspects of economics. The theme is that the "scientistic" view, which is attributed to the influence of Bentham, has been dominant, too dominant in Kennedy's opinion, and that it must be tempered by humanist "values."

This is an age-old plaint. Applied to the modern setting, the implication that the more rigorous limitation of "positive" economics which has been achieved creates the danger of an "authoritarian dictatorship of the scientists" seems wholly incorrect. The methodology of "positive" economics has been of great value precisely because it does dispel, not enhance, the "scientific" bases for normative or value propositions.

The humanist critique is not properly directed at the work of positive economists. These accept man as he exists. His value pattern is outside the economist's limits; to change this value pattern by discussion is the appropriate task of the humanist. By accepting as a framework for analysis a set of institutions which allows man to express rather freely his individual or private values, the economist must always be prepared to face the charge that he necessarily supports the value pattern so established. As private citizens, economists probably deplore comic books equally with the humanists. The great debate does not arise here. Rather it arises between those who would coercively impose a set of "higher" values on individuals and those who would not. And this debate is wholly non-scientific.

As for the economic thought of Coleridge, J. S. Mill said that Coleridge wrote "like an errant driver" and that "it would have been well for his reputation had he never meddled with the subject." Despite Kennedy's interesting attempt, this reviewer sees no reason to modify Mill's judgment.

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JAMES M. BUCHANAN

Lectures on Economic Principles. Vol. I. By Sir Dennis H. Robertson. London: Staples Press Limited, 1957. Pp. 172. \$3.50.

This is the first of three volumes embodying the lectures on economic prin-

ciples which Professor Robertson delivered to students most of whom were in the second year of a three-year economics curriculum at Cambridge in the years from 1945-6 to 1956-7. The later volumes will deal with the Theory of Distribution and with Money and fluctuations in economic activity. The present volume is concerned largely with the Theory of Value.

The first chapter discusses the nature of economics and its relationship to various other subjects. Then, by doing a bit of business with Robinson Crusoe and a nameless visitor from Mars, Professor Robertson introduces a number of basic economic principles and institutions. A third chapter presents some principles and issues in connection with national income analysis. The rest of the volume deals with demand, utility, supply, competitive value, the factors of production and their combination, increasing and decreasing cost, monopoly, monopolistic competition, the short period, joint supply and price discrimination, and some defects of economic freedom.

The common definition of economics as the science which studies human behavior in the allocation of scarce means among given alternative ends strikes the author as being at once too narrow and too broad. He is more inclined to say with Cannan that economics is the study of things having to do with man's material welfare, although this definition may make it rather difficult to determine just what is and is not included in the subject.

The Law of Demand is based upon the utility analysis, and there is much interesting discussion of the usefulness and limitations of this analysis. The term utility is used to mean satisfaction and, in relating utility to the demand schedule of an individual for a commodity, the author assumes that a person's desire for different things is proportionate to the utility which he expects to get from them and that the utility which he does get is equal to the utility which he expects to get. Later the validity of these assumptions is questioned, but no very definite conclusion seems to be reached as to how far the original assumptions may be considered trustworthy. Might it not be preferable to define utility as expected satisfaction or desirability in the first place?

Relatively little is done with the concept of elasticity of demand and the indifference analysis is dealt with only in passing. Professor Robertson concedes that a reasonable account of the behavior of the individual consumer can be built up without the aid of the concept of measurable utility, but concludes that "even in this field an analysis which makes use of it gives a more persuasive account of what really happens than one which does not" (p. 87). Much is made of the concept of consumers' surplus, and the author believes this concept to be "of considerable importance as a guide to public policy" (p. 78).

Free competition means a situation of the market such that the demand for the output of a single seller is perfectly elastic. In spite of the rigidity of this concept and the difficulties involved in finding freely competitive situations in real life, the author thinks it better to start with such competition as a standard of reference, pass on to monopoly as a secondary standard of reference, and then say what can be said of the cases lying in between than to try to build up a general theory of value in an imperfect market.

Professor Robertson does not try to distinguish *industries* of increasing and decreasing cost but deals only with *tendencies* to increasing and decreasing cost. Both tendencies can apparently operate in the same industry at the same time, and what happens to cost in the long run, as an industry changes productive capacity and output, depends upon whether the one or the other tendency operates more strongly.

To account for decreasing costs, the author falls back on the familiar internal and external economies. No one questions that there are economies of scale (within limits) in connection with the changing size of the individual firm, but it is not easy to see why they should result from increases in the size, productive capacity, and output of the industry, unless the industry had formerly been too small to permit even one firm of optimum size to operate. Again, the ingenuity of man, as reflected in better machines and methods and improved organization, is likely to lead to decreasing costs as an historical development, but do such events follow at all directly and automatically upon mere increases in the size and output of industries in any particular situation? If the question is simply one of the effect of increases in industry size and output on cost, many economists have difficulty in accounting for decreasing costs.

The chapter on the factors of production and their combination, which includes the development of the Law of Diminishing Returns and the Principle of Substitution, is excellent, and so is the treatment of joint supply and price discrimination. After a rather standard treatment of the determination of monopoly price, the chapter on monopoly presents some useful discussion of the relative levels of monopolistic and competitive prices. In dealing with the cases lying between competition and monopoly, Professor Robertson starts with what would usually be called monopolistic competition proper and later fights his way to duopoly and oligopoly. This is a somewhat unusual procedure, but it is carried out most effectively. The short period analysis is the customary one except that the author tries in this place rather than elsewhere to relate the short-run and long-run cost curves of the individual firm.

On the whole, this is an excellent book. To be sure, important topics in value theory are sometimes treated very lightly while other (certainly no more important) ones are given much space, but there are several reasons for this. The author has set forth the materials presented in his lectures, and has not tried to write a well balanced textbook, much less a comprehensive treatise. His students were exposed to a number of other economists at the same time and hence could hope to obtain more light elsewhere on subjects which were skimmed in these lectures. And the emphasis on certain matters resulted in part from the fact that Professor Robertson felt himself to be the custodian of some points of view which seemed likely to be neglected under the new orthodoxy.

The book contains very little mathematical analysis, diagrams are relatively few and simple, and even numerical illustrations are infrequent. The exposition is clear and lucid and the author's style, lightened with many deft touches of humor, is delightful. The book should be read by all economists who concern themselves with the theory of value, and it would make a splendid second book,

to accompany the textbook, for courses in intermediate theory as these are usually given in this country.

University of Florida

RALPH H. BLODGETT

Inflation: A Study in Economics, Ethics, and Politics. By G. L. Bach. Providence, R. I.: Brown University Press, 1958. Pp. v, 103. \$2.50.

Based as it is on the substance of the Colver Lectures delivered at Brown University in the winter of 1957, it will not be surprising, as Professor Bach observes in his preface, that this modest little volume uncovers little new ground. Its value lies, rather, in the clarity and precision with which the author has summarized the major elements in the rather intricate process of inflation. Bach is further to be commended for his ability to thread his way cautiously among the one-sided and simplistic policy prescriptions with which this particular issue is surrounded. On the one hand, Bach views inflation as a *deep-seated* social and political problem in the contemporary American setting, rather than as a superficial growth which can readily be extirpated through the issuance of the proper directives to the monetary-fiscal authorities. The latter view which enjoys some popularity fails to weight (1) the heavy social and economic costs in terms of unemployment and unrest which would have to be paid before the pressure groups, whose way of life has been built about a forward policy, finally "learn their lessons" and circumspectly restrain their demands within the limits set by restrictive monetary framework, and (2) the political unrealism of assuming that an "independent" Central Bank can in truth act *independently* of the wishes of the great social interests that sustain the community. On the other hand, Bach recognizes the long run unrealism of attempting to limit inflation to a small but steady rate, on grounds both of equity and of the speeding-up of the inflationary process which is the consequence of waning faith in the currency.

In outline, the book is simple. Chapter I deals with the immediate impact of inflation on production and on distribution, about which in Bach's opinion little that is definitive may be stated save that inflation transfers wealth away from those who hold fixed-price assets. Chapter II deals with future prospects, i.e., the likelihood of secular inflation, based upon full employment policies, group pressures, government spending on national security and welfare, and the lapse of a restrictive monetary environment. Chapter III examines the question of social goals in relation to the inflation problem and concludes that the case for control rests mainly on equity considerations. In the final chapter, Bach indicates two possible methods of dealing with the problem. First, we may fight the inflation irrespective of the cost; secondly, we may assist now handicapped groups to protect themselves against the inflation. The first method would depend upon a rational, voluntary consensus of the citizenry that inflation is intolerable—as yet there is no sign of such a consensus so that this approach is not a present possibility. Temporarily we must devise means of protecting weaker groups against the inflation; such action will tend to stimulate inflation-

ary forces and help to develop public determination to meet the inflation head-on, for in the long-run a limited inflation is not a real possibility.

One could differ with Bach's interpretation at specific points. The present reviewer, for example, has argued that the mechanism of present-day inflation with its initiating pressures on the cost side in an elastic monetary environment has changed the nature of the inflationary process, and for this reason the previous experience which Bach examines may not be relevant. Even moderate inflation, if persistent, may have an effect on production in both the long run and the short. Moreover, if we fight inflation by rigorous limitation of the money supply, we may introduce inefficient and inequitable distortions within the economic structure. One might question Bach's view that large-scale government spending must inevitably in a democratic society push up prices. These are, however, merely marginal criticisms; the book is a concise, highly readable introduction to an endemic problem of contemporary society. It may be useful for introducing entering students to the economic climate of the modern world.

University of Virginia

JAMES R. SCHLESINGER

Economic Models: An Exposition. By E. F. Beach. New York: John Wiley and Sons, 1957. Pp. xi, 227. \$7.50.

The present volume is a contribution to a growing body of excellent textbooks in mathematical economics. It is presented at an elementary level, and the book is very brief relative to most texts. Nevertheless, it might well serve as a syllabus for a one semester or one year introductory course for first-year graduate students. The knowledge of mathematics requisite for comprehension does not exceed that of most college graduates (algebra); on the other hand, some acquaintance with statistics is necessary if the student is to obtain full benefit from the book.

The text is divided into two sections, the first half being devoted to mathematical models. Professor Beach briefly presents some thirty models based upon the works of Allen, Colin Clark, Domar, Evans, Ezekiel, Harrod, Hicks, Kahn, Keynes, Littler, Liu and Chang, Marshall, Modigliani, Mosak and Salant, Samuelson, Schultz, Tinbergen, Walras, Wald, and Working. The models discussed represent a wide range of types: static and dynamic models, continuous and sequence models, linear and non-linear models, micro and macro models. Interspersed among these descriptions are sections on differential equations, difference equations, and derivatives.

Econometric models are the subject of the second half of the book. In this section, the presentation of models is very brief, limited to the simple reduced-form type. Instruction in statistics, especially techniques of regression analysis, is dominant in this portion of the book. In addition to simple and partial correlation, the author discusses confluence analysis and the simultaneous equations approach; however, solution techniques for the reduced form and limited information estimates are not provided.

Professor Beach begins by stating that the purpose of the text is to provide instruction in mathematics and in model analysis. The first half of the text

serves this purpose admirably. The method of model building is demonstrated by a multitude of examples and the mathematical techniques of solution are presented. In the second half, the emphasis upon model analysis is somewhat obscured by the predominance of formal instruction in statistics. Econometric model building and its consequent problems are only treated in the final chapter. Since most of the statistical methods developed by Beach are adequately covered in first-year courses in statistics, it seems that a substantial portion of the second half could have been devoted to other topics; for example, specific econometric models such as those of Klein, or matrix algebra and some of the important models utilizing this mathematical technique, such as Leontief systems and linear programming.

I should not wish that criticism in the small mask the general excellence of this volume. In particular, I do not think that the omission of certain segments of mathematical economics is too important, for an instructor is likely to use two or even three texts in an introductory course. There are, however, certain aspects in which the text could be improved. In the first place, the reader is given no instruction in the basic concepts and terminology of mathematics. In the opinion of the reviewer, a chapter on the algebra of sets should be included in any introductory text in mathematical economics, for this is a fundamental part of mathematical training, however cursory. Secondly, the definitions of certain mathematical terms are inadequate (*e.g.*, "function" on pp. 15-6 and "random variable" on pp. 113-4). Finally, the author uses an application of physics in outlining the concept of a derivative and several contrived experiments in demonstrating the techniques of regression analysis. There are many adequate illustrations from economics which can replace these, certainly with more appeal to the student.

Duke University

C. E. FERGUSON

Linear Programming and Economic Analysis. By Robert Dorfman and others. New York: McGraw-Hill Book Company, 1958. Pp. v, 527. \$10.00.

In the past few years developments in linear programming and cognate fields have made possible great advances in economic theory. Partly because these techniques were developed with the aid of special mathematical tools such as convex sets and topology, and partly because many research papers were devoted to the statistical application of the new methods, an increasing gap between these new sciences and economics began to appear. In the work under review an effort is made to bridge this gap by developing the implications for economic theory of the new tools in a manner designed to appeal to the economist.

In the words of the text, linear programming is "the analysis of problems in which a linear function of a number of variables is to be maximized (or minimized) when these variables are subject to a number of restraints in the form of linear inequalities." Once an economic problem is cast in this form the values of the variables involved can be calculated by means of the "simplex method." If the function to be maximized resists linearization, a problem in non-linear

programming emerges, and some of the specific virtues of this method vanish. Thus, since no generally acceptable method of linearizing a utility function has been found, demand theory must be regarded as a non-linear programming problem for the present.

In the first eight chapters the authors develop the essential concepts of linear programming, beginning cannily with the analysis of two specific cases: the diet problem and the theory of comparative advantage. Having firmly implanted the basic ideas by examples, the authors proceed to develop the basic algebra of linear programming. Following up these abstractions with an application to "the transportation problem," they proceed to the analysis of the firm and the valuation of resources. Here the dual problem of allocation and valuation of resources receives careful attention. In a succeeding chapter the uses and limitations of non-linear programming are briefly developed.

Beyond this point the subject matter spreads out over a whole collection of topics. In two succeeding chapters Leontief's input-output analysis is developed, its properties studied and its status as a special case of linear programming shown. Next the authors dip into the relation of linear programming to economic dynamics. In a first chapter the authors develop the Ramsey, Leontief and Von Neumann dynamic models in a manner consistent with the linear programming approach. Subsequently, problems of capital accumulation are developed in classical and linear programming form. By casting the older models in the newer form and developing their capital accumulation schemes in a similar way the authors exhibit both consistency and originality.

In succeeding chapters on general equilibrium and welfare economics the existence of a Walrasian system of equations is proven and the essential properties of welfare economics are developed by use of the new tools. In the last two chapters the essentials of game theory are developed and the relation to linear programming shown. In fact, it is proved that every linear programming problem is convertible into a zero-sum, two-person game and that every such game can be converted into a linear programming problem. Since solutions have been developed for many games, it is frequently advantageous to convert a problem in linear programming to a game and solve the latter. Conversely, games may be solved by linear programming.

From this brief summary it is quite evident that the book provides an extensive survey of the various fields in which the new technique may be applied. By the careful use of verbal explanation and elementary algebra the mathematical requirements are held to a minimum; vectors and matrices are used in the text only where essential, otherwise being cleared into footnotes; calculus is seldom used. Where set theory and topology are employed simple and pertinent explanations are provided. The result of these labors is something of a tour de force, a survey of recent developments in economic theory and cognate fields integrated by the reasonably simple techniques of linear programming. With the aid of this book a person with modest mathematical training and aptitude can secure access to the many profound insights afforded by recent breakthroughs in mathematical economics.

Despite these many virtues this book does not afford easy reading. Seldom can one turn a page without finding a new table or batch of equations on the next. Pursuing this course for five hundred pages is no easy task. However, when the going gets toughest, the authors usually manage to clear the air with a welcome touch of humor. Comparison of the text with original sources also makes abundantly clear the heroic job the authors have done in simplifying and unifying the theories considered. In virtue of its breadth of scope, unity of method and understandability this book seems likely to become a landmark in modern economic theory.

University of Alabama

JOHN S. HENDERSON

International Trade: Goods, People, and Ideas. By Wendell C. Gordon. New York: Alfred A. Knopf, 1958. Pp. xvii, 647, xix. \$6.75.

Teachers of courses in international economics currently have a veritable smorgasbord of textbooks from which to choose, and any taste should find something to its liking from recent publications in this area. Wendell Gordon's book unquestionably has a distinctive tang which clearly sets it apart as a differentiated product. It is a delightful book, and even teachers who prefer a more "theoretical" or "abstract" approach to the problems of international economics will do well to ask their students to read this book, and, if the instructors themselves were to devote some time to it, they might be able to brighten up their own lectures.

One gets the impression of an old master surrounded by a group of bright students eager to learn about international economics. The first question raised is, "What are the facts?" Statistical data are used more extensively here than in competing texts, and the book is a valuable reference work for this reason alone. Attention is next given to how others have analyzed the facts. Frequently a theoretical position is condensed into a few sentences, but Gordon has usually been successful, to use one of his phrases, in retaining at least the flavor of the argument. Finally, a fresh look is taken at the facts and their earlier interpretations in an effort to see how all of this looks to us. The author clearly sets forth his own assumptions and preconceptions in the early chapters, and when occasion arises he takes a firm position regarding disputed issues and exposes mean motives wherever he detects them. All of this takes time to do, and this is not a short book. But the exposition is clear, the style is spritely, and it should take less prodding to persuade undergraduates to read this text than any other currently available. Many teachers will undoubtedly find this the best book written to date for non-economics majors; whether it provides the best approach for those who will take advanced work in the area of international economics turns on the unsettled question as to how far to the right of the decimal point a first course in the field should go. Those who insist that meaningful solutions to the problems in international economics cannot be arrived at without heavy reliance on algebra and geometry with occasional use of some of the more sophisticated mathematical tools will unquestionably find this book inadequate.

The nature of the emphasis of this book is indicated by the fact that neither

in the index nor in the fifteen-page bibliography do any of the following names appear: L. A. Metzler, F. D. Graham, Sir Donald MacDougall, Robert Triffin, Sir Hubert Henderson, Folke Hilgert, or Karl-Erik Hansson. One index reference is made to each of the following: J. Viner, F. Machlup, M. Friedman, R. Frisch, and E. M. Bernstein. Frequent reference is made, however, to the works of J. E. Meade, C. E. Ayres, T. Veblen, and K. Marx. The basic organization is more conventional: Part I, Background; II, The Traditional Theory; III, Balance of Payments and National Income Theory; IV, The Movement of Goods and Services; V, Money, Short-Term Funds, and the Business Cycle Problem; VI, Capital Movements; VII, Growth; and VIII, Toward an Integrated Program.

The first chapter begins with this sentence: "The basic assumption of this book is that the maximization of a combination of (1) level of living, (2) individual freedom of action, and (3) security, is desirable" (p. 11). The final chapter concludes with the following paragraph: "Freedom of action is, in a sense, the highest of goals. It rises above the mundane stuffing-the-stomach implications of the goal of raising the level of living. It is not largely negative, as is the case with the realization of security. It represents, on the contrary, the area where man expresses himself in a positive way. Satisfaction in life is largely gained from doing things we like to do or which we consider constructive—and doing them well. Freedom of movement and freedom to exchange knowledge make their tremendous contribution in facilitating such activity" (pp. 630-1).

One comes to the end of Gordon's book with a feeling of regret that it is all over. This is enough to set it apart as almost unique among textbooks currently available to undergraduates.

Southern Illinois University

CLARK LEE ALLEN

Government and Business: A Study in Economic Evolution. By Howard R. Smith, New York: Ronald Press Company, 1958. Pp. v, 802. \$7.50.

The course in government and business has long been characterized by the wide diversity of approach which different instructors take to its subject matter. The textbooks in this area reflect the numerous alternatives. Professor Howard R. Smith has contributed a new volume which makes a distinguished contribution in an effort to fill a real gap. His basic approach to the course is indicated by the subtitle of the book, "A Study in Economic Evolution."

The author is a practicing economist who successfully refrains, however, from any narrow professional bias. He views the development of the contemporary American economy from a broad historical perspective and emphasizes the political background from which our economic institutions derive. He paints a broad canvas bringing us from the beginning of the United States as an independent nation down to the present day. This historical approach, which may be frowned upon by current events addicts, has the great advantage of providing a sharp focus for the beginner who studies the institutions on which a modern competitive system is built.

The author defends the use of the historical approach vigorously in the

preface. His most persuasive point, and one on which this book excels, is the fact that the step-by-step approach to the subject matter makes possible the elimination of many details which detract from the understanding. In view of the great complexity of the field, this clarification helps a good deal. The historical approach is not a popular fad in economics courses at this time. This technique makes it necessary to write a rather long book. In spite of its 771 pages of text, the book is not wordy but deals with its subject thoroughly. The beginning student may grow somewhat impatient before he comes to grips with the modern problems which seem to him more directly relevant today, but his road is eased by a sound style which makes the reading enjoyable.

This book will appeal most strongly to the political scientists and the economists, particularly when they favor a historical and institutional framework. The author has little patience with the purely legal aspects of a course in monopoly control. We find in this very substantial volume all the customary court cases. The writer is more concerned, however, with the setting in which the litigation arose and the spirit of the times which helped to shape the opinion of the court. He does not waste time with quibbling or a compilation of judicial box scores.

The theme of the book is *laissez faire* and its meaning to the American economy. The book is divided into seven parts. From the era "Before *Laissez Faire*" the author takes us to "*Laissez Faire* Resplendent," *Laissez Faire* Threatened," "*Laissez Faire* Replaced" until he reaches in part six the post World War II period which he entitled "A Mixed Economy." The introduction provides a penetrating analysis of the "public interest" which is too often brushed off by a paragraph or two.

Discussion of legal details and economic theory remains subordinate to broader aspects of institutional development. For example, the procedural changes of the Wheeler-Lea Amendment are touched in only one sentence, even though their importance is recognized (p. 620). The treatment of basing point prices fails to mention such theoretical alternatives as have been advanced by J. M. Clark. But no book can cover every aspect. Professor Smith is concerned with a realistic description of the forest rather than a detailed investigation of each tree.

The historian may not always agree with the author on his interpretation of economic evolution. The nature of *laissez faire* in American economic history is open to different interpretations, but the author's definition is quite startling even though it eliminates some of the difficulties of the discussion. "*Laissez faire* means that pattern of policies which the business interests after the Civil War were politically powerful enough to establish." While the book uses this definition to considerable advantage, it is hardly an orthodox use of the term. The text deals in considerable detail with evolution of major institutions in our competitive system, particularly with the evolution of the corporate form of enterprise and the tradition of private property. Unfortunately, in this framework a detailed discussion of the evolution of management as a separate institution has not been attempted.

The book reads very well. Both graduate and undergraduate beginners are likely to learn a great deal from a leisurely reading of this thoughtful and stimulating text; it might even return the historical approach in this course to its former popularity.

Oklahoma State University

R. W. TRENTON

Economics and Social Reform. By Abram L. Harris. New York: Harper & Brothers, 1958. Pp. XVI, 357. \$5.00.

The major portion of this volume consists of more or less extensively revised versions of articles earlier published by Professor Harris in various scholarly journals, among them the *Southern Economic Journal*. The articles dealt with the theories of Karl Marx, Thorstein Veblen, John R. Commons, Werner Sombart, and Heinrich Pesch, the last as a representative of the corporative economics advanced by various Roman Catholic writers. In addition to the amended essays on these figures a lengthy consideration of John Stuart Mill and an introductory chapter are included in the volume, and Frank Knight has contributed a foreward.

It appears that the present work represents a culmination of studies of the institutional and historical schools of economics which Professor Harris began more than thirty years ago. During this period the author's own ideas have undergone a rather profound change, from an early "state of social rebellion" to the present acceptance of traditional economic theory, presumably what he now deems to be "scientific economics" (p. 323). As the essays now stand, they are the reactions of an orthodox economic analyst to the various figures surveyed. In general these reactions are, as one would expect, unfavorable. Professor Harris has scant sympathy for the methods, viewpoints, or the conclusions he finds in the works of Marx, Veblen, Commons, Sombart, or Pesch. He is impressed by the resemblances in the theories of these five, particularly in their attitudes toward capitalism as a system of power. Mill elicits the author's admiration not as a technical economist but as the embodiment of the best in nineteenth century classical liberalism.

My space allotment requires limitation of comment to one or two rather general points. The title of this volume roused in me the hope of discovering some enlarged vision of possible relationships to be found between economics and social reform for these days when, if ever, such a vision needs be as large and clear as possible. But the Harris view is, to my reading, that all the economists analyzed, save Mill, could only offer erroneous or meaningless conclusions and defective formulations, and that acceptance of their programs "would probably create greater 'evils' than those attributed by them to capitalism" (p. xiv). This group of economists can provide only confusion and frustration for the processes of social reform, it would appear. As for Mill, one can share Professor Harris's admiration for this magnificent nineteenth-century figure and still feel that something must be added to our analysis of social reform beyond that which Mill offered.

My anticipation of some new insight in these matters was brought on, as I have said, in part by the book's title. But it was also encouraged by an aware-

ness of the Harris movements from radicalism to orthodoxy as well as by Frank Knight's comment in the foreward that the author "has not ceased to favor measures of progressive reform not impossible to carry out and which offer a reasonable prospect of doing more good than harm." Knight further lauds the author by saying that he is "seriously trying to define and adopt a middle position." As far as I can discern, the Harris contribution appears only by implication as an animus against state regulatory activity and an advocacy of more competition. One may recognize the many merits of a market system and still be somewhat disappointed with its being offered as a vehicle for social and economic reform.

If one wishes a thorough and highly competent analysis of these economists from the viewpoint of free market theoretical orthodoxy in economics, this volume will provide it. But if one seeks a new vision on the relationship between economic and social reform, it should be, I regret to say, sought elsewhere.

University of Texas

CAREY C. THOMPSON

Theoretical Economic Systems: A comparative Analysis. By Walter S. Buckingham, Jr. New York: Ronald Press Company, 1958. Pp. vi, 499. \$7.00.

"This book," says the author, "attempts to classify the major theories of capitalism and socialism and to examine, compare, and evaluate them." It is "concerned only with theoretical models of economic systems applicable to modern, industrial countries."

It is not a survey of existing systems such as exist in this country, Britain, Northwestern Europe and Russia, for example, although an occasional reference is made to these various economies.

There are four major divisions of the book, viz., Part I, Introduction (1 chapter); Part II, Theories of Capitalism (7 chapters); Part III, Theories of Socialism (3 chapters); and Part IV, Toward One Economic System (3 chapters).

The outline and the analysis suggest that historically one economic doctrine grows out of another and that finally the growth culminates, like a Wagnerian opera, in the grand finale of One Economic System. This is a lofty conception, and the history of the past several centuries gives testimony to its merit. The details of the past do not, however, fit neatly into this pattern; and also the development of doctrine does not proceed in isolation as this to some extent implies. The author, however, does not formulate this idea, nor does he disclaim it.

There is a wealth of good analysis in this book, in addition to the vital, though implied, idea of process, and it is to be hoped that large numbers of students are given a go at it, although it does not fit into the usual curriculum.

It is also to be hoped that the author will soon bring out a revision. The book is too good not to be made better. This reviewer would suggest that the work on Mercantilism in the second chapter and in the one on Keynes be made into a chapter that precedes and provides proper background for Adam Smith and his followers.

Then, too, it seems to me, that the changing and developing techniques of the

past several centuries should be made central to economic analysis and especially when different economic systems and different time periods are being considered. The author makes several references to technological developments but these are of the order of hole-in-the-corner allusions, rather than a center-of-the-stage portrayal that is so strongly needed. It is true that several generations of economists wrote as if they were oblivious to technical changes and thereby paid a high price in sterility, but this can easily be used to make the central point.

The book also suffers from occasional errors which are perhaps largely attributable to haste in meeting a date line. Certain footnotes and the absence of footnotes may be cited, but more particularly there are, at least, several inaccuracies in analysis and in statement that are regrettable as I see it. For example, the Black Death led to the Statutes of Labourers, not to Conspiracy Acts (p. 34); Say's Law is not that a product creates its own demand because of the amount paid out for its production (p. 163); the abstinence-pain explanation of the rate of interest was not "replaced by a more defensible theory of time preference" because critics said that "most saving was done by the very rich" (p. 167); Keynes' three motives for liquidity preference (General Theory, p. 170) are not as given here (p. 167); Marx's value theory, however wrong, was a supply and demand theory as was also the classical theory (p. 131); and it seems to me that the author is in error in respect to the degree to which the old *laissez-faire* principles underlay the Republican victory in 1952 (p. 194). Finally, I am puzzled as to what he means when he says in the preface that in writing this book "he tried to be as objective as any economist dares to be."

Tulane University

H. GORDON HAYES

Economic Systems of the West. Vol. 1. By Rudolph Frei (ed.). Tübingen, Germany: J. C. B. Mohr (Paul Siebeck), 1957. Pp. 247. DM. 22.

This is a collection of eight articles surveying the current economic systems in Belgium, Denmark, Great Britain, Japan, the Netherlands, Austria, Spain and Sweden. The studies of the Netherlands, Austria and Spain are in German, that of Belgium is in French, the rest in English. This reviewer was thankful for the German and French language requirements of graduate school and even more thankful for the English summaries at the end of each survey.

The inspiration for these studies was an article by Calvin Hoover that raised the question of the pertinence of neoclassical theory in the "big business" economy today. ("The Relevance of Competitive Laissez-Faire Economic Model to Modern Capitalistic National Economies," *Kyklos*, 1955.) Hoover urged highest priority for constructing a theory more consistent with existing institutions and processes, and he urged study of the organizational forms and economic processes of Western European national economies to establish a factual basis for this new theory of capitalism. These surveys, and a second volume (due Spring 1958) on Finland, France, West Germany, Italy, Norway, Portugal and Switzerland, are addressed specifically to this need.

Since these studies are essentially empirical some over-all conclusions can

be drawn. First, in all eight countries it is apparent that the role of government has increased steadily since 1945, although all still have predominately market economies. Government's role is fairly well limited to maintaining full employment, supporting agriculture and regulating cartels. Second, in all of these countries, wages and working conditions are almost completely controlled by collective bargaining except Spain where they are controlled by government. Third, the preponderant business enterprise sector continues to be regulated by private cartels although no trend toward bigger units or increasing private monopoly is evident. Fourth, freer European trade has had the desirable effect of increasing competition. Fifth, the inevitable differences among the economic systems in these countries seem to be due more to the considerable differences in political ideologies than anything else.

Great Britain is the only one of the eight to have pursued nationalization extensively since 1945 and except for this public sector, Keynesian fiscal policy is about the extent of British controls today. Belgium has gone in for comanagement in industry but this nation, also, remains predominately a market economy thanks, in large part, to international competition from freer trade. Liberalization of trade has opened Denmark's 1,500 domestic cartels to external competition and strengthened free enterprise in that country. The Netherlands has consciously and successfully pursued free enterprise. A noteworthy development here is a growing government control over cartels and horizontal price fixing. Austria represents the triumph of politics over economics. The two major parties have compromised between the monopoly and agrarian protection of the conservatives and more formal government control of the socialists.

Sweden, the famous "middle way" and long ruled by socialists, is in some ways the most free and enterprising of all since small business units predominate and have escaped both private and government regulation. Spain and Japan are the most non-competitive nations in the study. Spain is regulated by government ostensibly for economic expansion and in Japan the old *zaibatsu* is again taking over with government assistance. These studies lend weight to the paradoxical idea that capitalism's worst enemies are its protectionist and monopolist-minded friends.

Georgia Institute of Technology

WALTER S. BUCKINGHAM, JR.

The Over-the-Counter Markets. By Irwin Friend and others. New York: McGraw-Hill Book Co., 1958. Pp. viii, 485. \$12.50.

Since 1951, the University of Pennsylvania Press has published a series of monographs on the over-the-counter securities markets. These have been developed from studies conducted by the Securities Research Unit of the Wharton School and financed by the Merrill Foundation. This present volume, *The Over-the-Counter Securities Markets*, simply brings together in one place the monographs previously published separately. An introductory chapter giving an over-all view of these markets is added. While the studies fit together very nicely to make up the whole, no attempt has been made to integrate them in the process of combining the monographs into a single book.

In addition to the introductory chapter, there are six parts to the study. The

first five are limited to the over-the-counter markets and cover the following aspects of these markets: character and extent, activity, characteristics of transactions, positioning of securities, and pricing and price differentials. The final chapter, and perhaps the most provocative in the book, attempts to compare the effectiveness of the over-the-counter markets with the organized exchanges, with the former in general being adjudged superior.

The study is based largely upon data obtained through a series of questionnaires. The more comprehensive questionnaires were sent to a sample of investment dealers; the shorter ones to all such firms. The solicited information was concerned both with the nature of the firms themselves and the transactions executed by them. The period covered by the questionnaires was primarily September through November, 1949. The data have been thoroughly mined. In the chapter on characteristics of transactions, for instance, there are 52 tables. After breaking down the transactions into basic types of securities, the various types are analyzed by value of outstanding issues, the number of stockholders of the issuer, the asset size of the issuer, the price per unit, and the length of time since the last change in an outstanding issue, to mention a few. In fact, so many analyses are presented that the over-all picture soon becomes blurred. Throughout the book particular attention is paid to common stock trading in the over-the-counter markets. The importance of this market for trading listed stocks is clearly brought out. Adequate attention is given to the distinction between the market for new as compared with outstanding issues. For the reader interested in regional problems, all of the principal sections devote some attention to geographic differences. For instance, Southern dealers obtained a larger profit margin in transactions with public customers than did dealers in any other area (p. 356); but this can be expected in light of the size of trade usually executed by Southern dealers, the type of customers (individuals rather than institutions for the most part) and the typical size of the Southern dealer (p. 357).

This book—or more properly, the original monographs—contributes greatly to the knowledge of over-the-counter markets. The organized exchanges, particularly the New York Stock Exchange, have been the subject of study by many authors—Huebner, Meeker, Dice, Leffler—to mention only a few. The over-the-counter markets have been recognized but little analysis has been made of them. In the Twentieth Century Fund's important study, *The Securities Markets*, published in 1935, only six pages are devoted to the over-the-counter sector as such. Being a disorganized market, data necessary for a careful analysis have been largely lacking. The present study remedies this situation to a limited extent. It by no means provides information comparable to that available for the exchanges. We do not know what specific securities are favorites in this market nor what changes have occurred with respect to market preferences. We do not know what happens to the volume of trading when a stock previously traded only in the over-the-counter market is listed. We have little that enables us to gain much historical perspective of these markets. What we do have is a very complete and painstaking analysis of practices in and characteristics of these markets in 1949. That these to a large extent are typical of these markets

at the present time is very likely. The book, therefore, makes an important beginning in supplying knowledge of a sector of the securities market which in terms of the volume of business transacted is significantly more important than the organized exchanges.

University of Florida

JOHN B. McFERRIN

Farm Prices: Myth and Reality. By Willard W. Cochrane. Minneapolis, Minn.: University of Minnesota Press, 1958. Pp. vii, 189. \$4.00.

Professor Cochrane states that the purpose of his book is to "bring the best in modern analysis—information, economic logic, and social theory—to bear on the price-income problems of commercial agriculture." To accomplish this end he has developed a book of three parts.

Part I is entitled, "Farm Price-Income Behavior." In it he examines what he chooses to call the *myth* and the *reality* of the farm price situation—a situation which is "vaguely known" and "poorly understood." The myth is an "automatically adjusting agriculture." According to Cochrane such adjustments do not take place when farm prices are left alone or when given a friendly and helping hand, presumably by Government. This myth is viewed as running through the writings and speeches of most politicians, farm leaders, and laymen and grew out of the doctrines of *Laissez Faire* economics applied to agriculture.

The reality of price-income situation, according to Cochrane, is found in two areas—income problems and uncertainty problems. The heart of the income problem is the fact that changes in production are all important in determining the level of farm prices. Because of the inelasticity of these prices the farmer's income, both gross and net, declines as surpluses mount. Moreover, problems of grave uncertainty exist in the agriculture price structure because of the adverse effects of production on prices. Therefore, broad and dramatic sweeps occur in farm price level—trends which individual commodity prices tend to follow. Thus, rather than stability, Cochrane concludes that price-income instability is the norm for agriculture and the reality that must be dealt with.

Part II gives a theoretical explanation for farm prices. In this discussion Cochrane reviews the impacts of general economic conditions of agriculture, presents a cobweb analysis for explaining price variability, and concludes by saying that farmers in fact are on an "agriculture treadmill" with a tendency for long-run aggregate agriculture supply to outrun demand. This is because of the impacts that research and technical advances have on agricultural production.

Part III considers agriculture and policy. Professor Cochrane sees five blind policy alleys: (1) the free market approach, (2) the flexible price support approach, (3) the farm efficiency approach, (4) the fixed price support approach, and (5) the domestic food consumption approach.

He concludes that agriculture is faced with hard policy choices. One choice is based on the assumption that society is willing to put \$3 to \$5 billion a year in agriculture programs—a possibility that in the long range does not seem likely to him. However, if society is willing to pay such a bill two possibilities appear

reasonable. One is continuation of something approaching the 1957 farm program with its provisions for approximately 80 percent of parity, income distribution through the Soil Bank and related techniques, and an aggressive disposal program in foreign countries. A second alternative is adaptation of the principle of compensatory payments with freedom of choice on production, sale of products in the market place, and payments on a determined volume of production.

The second hard policy choice is for agriculture to develop its own program with little or no financial support from the rest of the economy. Under this procedure two alternatives also exist. One is a return to the free market—a possibility that is ruled out as lacking in reality and contrary to the wishes of most farm people. Therefore, the second alternative and the solution that appeals to Cochrane is for agriculture to develop its own program to control market supplies within the framework of necessary Federal legislation. In this respect he points to the success of sugar and tobacco growers.

During a period when few agricultural economists have demonstrated enough imagination in forging new approaches for dealing with farm problems, Professor Cochrane has done much to bring into better focus the alternatives that confront agriculture. His objective and realistic book deserves careful study by students of agricultural economics, farm leaders, and policy determiners.

Farmer Cooperative Service—U.S.D.A.

MARTIN A. ABRAHAMSEN

Management in a Rapidly Changing Economy. By Dan H. Fenn, Jr. (ed.). New York: McGraw-Hill Book Company, 1958. Pp. 339. \$5.00.

This book with sections by forty-one different contributors on subjects from broad social changes to individual career planning is one of the series of annual books which reports the proceedings of Harvard's National Business Conferences.

Like most books containing oral comments by different people, this one has considerable repetition. Moreover, some sections repeat the same observations found in numerous other sources. It does, however, provide a summary of useful facts, trends in business, and managerial concepts. Since many readers may wish to read only selected sections, the following may be helpful in making that selection.

Peter Drucker leads off with his well publicized observations on social changes followed by M. R. Gainsbrugh's economic analysis. After technological developments are summarized in one chapter and advertising is advanced as the major role in marketing in another, an excellent summary of population statistics and trends provides a firm factual basis for the entire conference. A shortage of skilled labor is predicted in one section while in another a chronic inflationary problem is explained to be the result of the possible failure of individuals to save enough for a growing economy.

A section on strategic industries, (petroleum, construction, automobile, steel, consumer appliances) delineates useful factors underlying specific determinants of future growth. Probably the sections which provide the most interesting and

novel information for the general reader are those in which (1) Dichter, Winick, and Lazarsfeld show the disagreements in the area of motivation research and (2) W. J. Gordon and J. E. Arnold discuss the recently intriguing subject of creativity from two conflicting viewpoints.

If one has not yet seen enough literature on automation and problems of the small businessman, each is the subject of a chapter which reiterates the one dose variety of treatment. The subject of long range planning is given real content in the description of approaches by Stromberg-Carlson and the Bell System.

A book such as this satisfies a real need in spite of its weaknesses. The problem is that it probably will be read by groups needing it least and not read by groups needing it most. Since it reports the current business thinking on such fads as motivation research, automation, and creativity, it will appear on the bookshelf of (and even read by) the practicing "enlightened" businessman. On the other hand, the theoretical economist probably will scan the chapters and, not finding any mathematical models nor even any marginal revenue or cost curves, decide that such superficial comments are not worth his time.

The academic specialist needs to maintain his perspective. Views in this book prepared for top management are especially valuable in establishing conceptual frames of reference for economists who are searching for the most useful theories. Moreover, such books have historical value in providing evidence of the thinking during a period of time. For example, in reading this book during the contraction of 1958, one is struck by the optimistic statements made in 1957. The discussion of technological, population, and income changes expected by 1965 indicates that businessmen in 1957 were taking an optimistic long-run view in spite of apprehension concerning the "middle years" of the late 1950's and early 1960's. It will be interesting to compare these views with those of the next annual conference.

This book does not shed new light on any one subject, and it is verbose. Still it is a valuable summary of views by a group who look at the interrelationships of many special areas and attempt to integrate a broad undepartmentalized outlook necessary to guide organizations into the future.

University of Kentucky

JOSEPH L. MASSIE

Coal and Steel in Western Europe. By Norman J. G. Pounds and William N. Parker. Bloomington, Ind: Indiana University Press, 1957. Pp. 381. \$6.00.

This book is a useful addition to the literature on Western European coal and steel industries written by two competent craftsmen. The study consists of three sections. Two sections deal with the history and early development of coal and steel production in Western Europe and with the growth and integration of those industries in the nineteenth century. The third section centers on development in the twentieth century until the present, including recent organizational arrangements within the framework of the European Coal and Steel Community.

The two historical sections prepared by Professor Pounds contain a discussion of technological, organizational and commercial aspects of coal, iron and

steel in Western Europe until the turn of the twentieth century. The source material is well summarized in footnotes. These sections are very valuable contributions to the economic history of Western Europe.

The third section, prepared by Professor Parker, considers in a well balanced manner the growth and stabilization of the Western European coal and steel industries in the twentieth century. Mr. Parker's study focuses on technological trends, organizational aspects and raw material supply. Less attention is paid to price, pricing and distribution problems. It might have been useful to discuss more in detail the scrap position of the Western European steel industry. Professor Parker indicates on p. 359 that the Italian steel industry needed (and was granted for five years) special protection within the European Coal and Steel Community. Since Italy is a large steel producer (almost 7 million metric tons of crude steel in 1957) a more detailed discussion of the Italian coke, ore, and scrap basis would have been of great interest for the American reader. The foregoing minor criticisms should not obscure the fact that Mr. Parker's section is also a very valuable contribution containing well documented research material and concise and reliable information on Western European coal and steel.

International Monetary Fund

ERVIN HEXNER

Conservation in the Production of Petroleum. By Erich W. Zimmermann. New Haven: Yale University Press, 1957. Pp. vii, 417. \$6.00.

Conservation in the production of petroleum has been a subject of great, but lessening, controversy as the years have passed. It is little understood by many people. This book is a valuable addition to the material previously available on this important subject, and is a well written and scholarly presentation, based upon an objective study and analysis by the author, of much of the available material pertaining to the subject. It is well documented, and, through footnotes, shows the sources of much of the material the author had studied and analyzed. It is well indexed, and has an excellent bibliography.

This book contains most of the fundamental information necessary to an understanding of the subject and presents both sides of the controversial questions involved. There is, of course, much additional material available, which it appears was not studied and analyzed by the author, so in discussing the pro's and con's, some strong arguments by qualified persons, on one side or the other, were not used. However, no individual could possibly study and analyze all available material.

The particular value of this book is that there has been condensed into one volume a rather complete discussion of the subject and all factors involved therein.

The book is referred to as "A Study in Industrial Control." It is a study of governmental regulation of the domestic petroleum producing industry to accomplish conservation in the production of petroleum. This is accomplished by Commissions functioning under State laws and with certain cooperation by the Federal government.

The first two chapters, entitled "Introduction" and "Conservation—Meanings

and Problematics," are to me a most excellent and interesting introduction to the subject, because it is a new type of approach. One of the most interesting points brought out is the difference between physical substances or neutral stuff and resources, and what it takes to convert neutral stuff into a resource.

The balance of the book covers such subjects as the nature and occurrence of petroleum; the difference between United States and foreign property laws; the rule of capture; the doctrine of off-set wells and correlative rights; the restriction of production to market demand; well spacing; unitization; imports; combined impact of factors necessitating conservation; the development of a sound conservation policy for petroleum through continually improved State laws and the administration of the same; the role of the Federal government; conservation of natural gas; evaluation of oil and gas conservation; the weaknesses and unsolved problems of petroleum conservation; the outlook for energy availability; etc.

The author presents very clearly the need to restrict production to market demand, even if market demand is less than the maximum efficient rate, in order to prevent physical waste. This subject is much misunderstood, but is of extreme importance.

The proper method of distributing allowable production between pools within a State, and between wells within a pool, as well as the question of unitization, are two factors that are quite controversial. They have been well covered. It could have been made clearer that all water flooding operations are not unitized to cover an entire pool.

The subject of well spacing, which is also controversial, might have been clarified to a greater extent. There are many fine papers by competent geologists and engineers that present strong arguments that closer spacing will result in a greater ultimate recovery. Some argue that well spacing is an economic, rather than a conservation question, if the rate of production from a pool is properly restricted. These arguments are not well covered. Spacing must be close enough, and all wells at equal distances from each other, if maximum drainage and equity is to be accomplished in a pool.

In view of the controversial nature of imports, it would have been better if the author had limited his discussion of that question to its effect on conservation in the production of petroleum and had not gone into the broader subject, which would take a large book in itself to cover, and would necessitate presenting both sides of the question in detail, with quotations from, and references to the great volume of material available. The author quotes from a booklet distributed by an importing company, giving its views regarding imports supplementing or supplanting domestic production. A few years prior, the president of the same company had publicly taken a rather different position. With one quoted, the other should also have been quoted. There is material available on the effect of imports on conservation in the production of petroleum, but none of that seems to have been referred to.

In conclusion, Professor Zimmermann endorses unequivocally the petroleum conservation program as a socially desirable method of aiding this unique in-

dustry in the quest for reasonable order, but states his general conclusions are, by no means, complete and definitive, for, although the system has been much improved, it is still far from perfect. He does add some limitations to this endorsement.

I can definitely recommend this book to anyone interested in the subject. All citizens would derive some benefits from reading it, because of the importance of the subject to our national security and economy.

Springfield, Illinois

HAROLD B. FELL

NOTES

ANNUAL MEETING

The Southern Economic Association will hold its 28th Annual Conference at the Hotel Atlanta Biltmore, Atlanta, Georgia, on Friday and Saturday, November 21-22, 1958. The theme of the conference is THE SOUTHERN ECONOMY IN RETROSPECT AND PROSPECT. Among the sessions planned are the following:

Friday Morning

1. *Population and Migration in the Southern Region*, with papers on regional migration, labor-market information, and population characteristics.
2. *Structural Changes in the Southern Economy Since 1940*, with papers on recent changes in regional income, occupational structure, and trade.
3. *Public Finance and Southern Economic Development*, with papers on regional property taxation and state tax, spending, and debt problems and patterns.
4. *International Trade and Southern Economic Development*, with papers on the international cotton outlook, the South's stake in trade, and the shifting Southern political outlook.
5. *Marketing Program*, to be arranged.
6. *Management Program*, to be arranged.

Friday Afternoon

1. *Industrial-Urban Development and the Southern Region*, with papers on the contributions of regional industrial-urban development, problems and policies in promoting regional industrialization, and the economics of location.
2. *The Primary Industries and Southern Economic Development*, with papers on the prospects for Southern agriculture, forestry, and coal-mining.
3. *The Negro and Southern Economic Development*, with papers on the socioeconomics of race, the optimum use of Negro resources, and racial division of labor.
4. *Recent developments in Economic Theory*, with papers on the theory of demand, business cycles, and economic growth.
5. *Marketing Program*, to be arranged.

Friday Night

Presidential Address

Saturday Morning

1. *Capital, Credit, and Southern Economic Development*, with papers on capital formation and the capital and credit needs of Southern industry and agriculture.
2. *Power, Transportation, and Southern Economic Development*, with papers

on the regional aspects of electrical power, other sources of energy, and transportation.

3. *Labor and Southern Economic Development*, with papers on industrial technology, the minimum wage, and unionization.

4. *International Problems of Economic Development*, with papers on European economic integration, foreign investment in underdeveloped countries, and Turkey's economic development.

DEATHS

Paul E. Bryant, of Charleston, West Virginia, died on September 18, 1957.

M. Ogden Phillips, Wilson professor of economics and head of the Department of Economics at Washington and Lee University, died on March 25, 1958.

Samuella V. Totty, professor of management and director of the Division of Business at Southern University, died on September 4, 1957.

APPOINTMENTS AND RESIGNATIONS

Catherine W. Abruzzi has been promoted to assistant professor of economics at North Carolina State College.

Warren E. Adams, formerly assistant professor of economics at Swarthmore College, has been appointed assistant professor of economics at the University of Texas.

Joseph Airov has been promoted to associate professor of economics at the School of Business Administration, Emory University.

Burriss C. Alread has been promoted to professor and head of the Department of Economics and Business at Hendrix College.

John E. Altazan, formerly at Loyola University of the South, has been appointed associate professor of economics and chairman of the Division of Commerce Studies at Louisiana State University in New Orleans.

Robert Amazon has been appointed part-time instructor in economics, College of Business Administration, University of Arkansas.

J. L. Athearn, assistant professor of insurance, University of Florida, spent the summer months in Seattle under a fellowship with the Northwestern Mutual Insurance Company.

Ann Bailey is on leave of absence from Southern State College (Arkansas).

Eric N. Baklanoff, formerly of Ohio State University, has been appointed assistant professor of foreign trade at Louisiana State University.

Richard Baltz has been appointed part-time instructor in economics, College of Business Administration, University of Arkansas.

Russell H. Baugh, professor of economics and head of the Department of Economics at Oklahoma State University, was a participant in the Interstate Conference on Labor Statistics held at Harrisburg, Pennsylvania, in June, 1958.

Leif C. Beck has been appointed part-time instructor in business law in the Department of Economics and Business Administration at Duke University.

A. F. Belote, formerly instructor in management at the University of Florida,

has been appointed associate professor of management at the College of William and Mary, Norfolk, Virginia.

David L. Bickelhaupt has been appointed assistant professor of insurance at Georgia State College of Business Administration.

J. O. Blackburn has been appointed interim instructor of economics at the University of Florida.

James Horton Blackman has been appointed part-time lecturer in economics at the University of North Carolina for the 1958-59 academic year.

C. P. Blair, assistant professor of international trade and resources, has been appointed as an assistant dean for the College of Business Administration, University of Texas.

Joseph M. Bonin, of Louisiana State University, has accepted a position at the University of Arkansas as an assistant professor of economics.

Allen I. Boudreaux has resigned his position as associate professor of accounting at Loyola University of the South.

Julian H. Bradsher, assistant professor of economics at Oklahoma State University, served as an economics consultant at the Oklahoma City Workshop in Economic Education in June, 1958.

Louis K. Brandt, professor of economics and finance at the University of Mississippi, taught during the summer session of 1958 at the University of Wisconsin.

T. R. Brannen, who served as a lecturer in the Department of Management, University of Florida, during the spring semester, has been appointed dean of the School of Business Administration, University of Kansas City.

John H. Brashear, lecturer in economics at the Woman's College of the University of North Carolina, received a Ford Foundation Fellowship to participate in the seminar in International Trade held at Duke University during the summer of 1958.

J. Herman Brasseaux, formerly at Louisiana State University, has accepted a position at Louisiana Polytechnic Institute as associate professor of accounting.

Christine A. Broom has resigned her position at Southern University to do advanced study.

Harry Gunnison Brown has retired as professor of economics at the University of Mississippi.

Richard W. Bryan, professor of finance and economics at Louisiana Polytechnic Institute, retired June 1 of this year.

George E. Bullard has been promoted to assistant professor of economics at Mississippi State University of Agriculture and Applied Science.

John Buss, most recently from the University of Heidelberg, has been added to the Business Administration staff at Arkansas State College.

James A. Byrd has resigned his position of assistant professor of finance in the College of Business Administration, University of Texas, and accepted an appointment as economic adviser for the National Bank of Commerce in Houston.

James A. Caldwell, formerly at Louisiana State University, has accepted a position at Georgia Institute of Technology as associate professor of economics.

Chris Carratt, chairman of the Division of Business, Florida Southern College, left his institution in June to take a two-year world tour.

James G. Carter, formerly with Ohio State University, has been appointed associate professor in the College of Business Administration, University of Georgia.

Jack W. Cashin has been promoted to associate professor of finance in the College of Business Administration, University of Texas.

Ira C. Castles has been appointed associate professor of economics at Delta State College.

John Champion, assistant professor of management at Georgia State College of Business Administration, has returned after a leave of absence during which he completed his Ph. D. degree.

Frank J. Charvat has been promoted to associate professor of business administration at the School of Business Administration, Emory University.

Richard C. Chewning has been appointed instructor in business administration in the School of Business Administration of the University of Richmond for the session 1958-59.

Avery B. Cohan, lecturer in economics at the University of North Carolina, has been appointed an editor of the *Southern Economic Journal* for the academic year 1958-1959 by that institution.

Lawrence C. Conwill has resigned as assistant professor of accounting at Delta State College.

Dudley J. Cowden has returned to his teaching duties at the University of North Carolina after having spent the past academic year at the University of London.

T. Hillard Cox resigned from Virginia Polytechnic Institute as of April 1 to accept a position with the Iranian Government.

Arnold Eugene Crotty has been appointed part-time instructor in accounting at the University of North Carolina.

Fay M. Culpepper has been appointed instructor in accounting in the Department of Economics and Business Administration at Duke University.

Edward W. Cundiff, formerly of Syracuse University, has been appointed professor of marketing in the College of Business Administration, University of Texas.

C. C. Curtis, formerly assistant professor at Rensselaer Polytechnic Institute, has been appointed assistant professor of real estate at the University of Florida.

Alfred G. Dale, who has been on leave during 1957-58 under a fellowship from the Ford Foundation, has been promoted to assistant professor of statistics in the College of Business Administration, University of Texas.

James Davis has been promoted to associate professor in business at Harding College.

John A. Davis has been named acting head of the Department of Economics

at Mississippi State University of Agriculture and Applied Science effective July 1, 1958.

Leslie Davis has been promoted to associate professor at Mississippi State University of Agriculture and Applied Science.

A. H. Dehner has resigned his position as professor in the Real Estate Department, University of Florida, to accept the headship in the Department of Economics and Business Administration at Willamette University.

C. T. Devine, professor of accounting, University of Florida, is on leave of absence as visiting professor, University of California, Berkley, during the academic year 1958-59.

Eugene J. Devine, acting assistant professor of economics at the University of Mississippi, has accepted a position at the University of Portland.

Joseph Victor DiBerardino has been appointed part-time instructor in economics at the University of North Carolina.

Robert L. Dickens, associate professor of accounting at Duke University, will be teaching part-time during the next academic year. He has received a Research and Marketing Act Contract from the United States Department of Agriculture.

E. Kidd Dockard, formerly at West Virginia Wesleyan College, has joined the faculty of Guilford College as associate professor of economics and business administration.

Evsey D. Domar, professor of political economy at The Johns Hopkins University, has resigned to accept a similar position at Massachusetts Institute of Technology.

C. H. Donovan, head of the Economics Department, University of Florida, has accepted a Fulbright lectureship for six months in India at Karnatak University.

James Douthit, formerly at the University of Arkansas, has been appointed instructor in business at Arkansas State College.

Don Doty, of West Salem, Illinois, has left the grain business to accept a position as part-time instructor in economics, College of Business Administration, University of Arkansas.

Selby Downer, assistant professor of marketing at the University of Mississippi, spent the summer at the University of Iowa doing graduate work.

Walter E. Dozier has resigned his position at Southern University.

L. A. Drewry, Jr., has resigned as instructor of economics at North Carolina State College to accept a position as assistant professor of economics at Queens College.

James Dunlap has been appointed part-time instructor in economics, College of Business Administration, University of Arkansas.

Edgar S. Dunn, Jr., professor of economics at the University of Florida, has been granted a leave of absence for the academic year 1958-59 to accept an appointment in Paris as economic advisor to the Organization for European Economic Cooperation. His work will consist of reviewing the existing effort of the under-developed area program of the European Productivity Agency.

Richard M. Duvall has been appointed part-time instructor in economics at the University of North Carolina.

L. Ward Edwards has been appointed instructor in business administration at Virginia Polytechnic Institute.

J. G. Eldridge, visiting professor of economics at Rollins College, has retired.

Fred R. Endsley, formerly with Indiana University, has been appointed assistant professor in the College of Business Administration, University of Georgia.

Clyde L. Erwin, instructor of economics at the University of Mississippi, taught at Florence State College during the summer of 1958.

Rashi Fein, who has been promoted to associate professor of economics at the University of North Carolina, is on leave of absence during the 1958-59 academic year to work as a statistician with the Department of Commerce in Washington, D. C.

Russell C. Ferrington, assistant professor of accounting at Louisiana Polytechnic Institute, has been granted a two-year leave of absence for advanced study.

David A. Finley has been appointed part-time instructor in finance at the University of North Carolina.

W. Baker Flowers has resigned his position as instructor of accounting in the College of Business Administration, University of Texas, and accepted an appointment to the faculty of the University of Washington.

Ben L. Forbes has resigned as chairman, Department of Accounting, at Mississippi Southern College to complete work on the Ph.D. at the University of Illinois.

Dennis Ford, Jr. has resigned as assistant professor of management in the College of Business Administration, University of Texas, and accepted an appointment to the faculty of Texas College of Arts and Industries.

W. M. Fox, associate professor in the Department of Management, University of Florida, has accepted a Fulbright lecturing award at the Helsinki School of Economics in Finland for 1958-59.

Gordon S. Fyfe, assistant professor of marketing at the University of North Carolina, has returned to his teaching duties after a year's leave of absence during which he continued his doctoral studies at Syracuse University.

Gerald Gibbons has resigned as part-time instructor of business law in the Department of Economics and Business Administration at Duke University to accept a position as assistant professor in the School of Law at Mercer University.

O. T. Gooden has retired as head of the Department of Economics and Business at Hendrix College.

Wendell C. Gordon has been promoted to professor of economics at the University of Texas.

James E. Greene has been appointed assistant professor and director of guidance at Georgia State College of Business Administration.

Albert Griffin has been promoted to professor of business administration at the School of Business Administration, Emory University.

Percy L. Guyton has been promoted to professor of economics at Memphis State University.

Herbert R. Hahn has been appointed visiting assistant professor in the Department of Economics and Business Administration, Duke University.

Bob Hall has been appointed part-time instructor in economics, College of Business Administration, University of Arkansas.

George W. Hardbeck has been appointed associate professor of economics at Louisiana Polytechnic Institute. He was recently awarded a Ph. D. in economics at the University of Illinois.

Floyd Harper has been appointed professor of actuarial science at Georgia State College of Business Administration.

Dale S. Harwood, Jr. has resigned as assistant professor of accounting in the College of Business Administration, University of Texas, and accepted an appointment to the faculty of the University of Georgia.

Richard Hauby has joined the faculty at Mississippi Southern College as assistant professor of economics.

Rolf Hayn, professor of economics at the University of Oklahoma, has accepted a Fulbright award to Argentina for the first semester of 1958-59.

Milton S. Heath, professor of economics at the University of North Carolina, has returned to his teaching duties after a year's leave of absence during which time he held a Ford Foundation Faculty Research Fellowship.

W. A. Heffelfinger, formerly assistant treasurer of the University of Arkansas, is now a member of the staff of the Bureau of Business and Economic Research, College of Business Administration, University of Arkansas.

Henry Weldon Hewetson, associate professor of economics and business administration at Mary Washington College, is doing research on the growth of cities in the United States, under a grant from the Virginia University Center.

C. Addison Hickman, dean of the School of General Studies and acting head of the Department of Economics at North Carolina State College, has been appointed a member of the board of editors of the *Southern Economic Journal* for the academic year 1958-59 by the Southern Economic Association.

William T. Hicks, chairman of the Department of Economics and Business Administration at the University of Mississippi, is serving as consultant to the Central Territories Traffic Commerce Bureau, Eastern Railroads.

Benjamin Higgins, of the Center for International Studies, Massachusetts Institute of Technology, has been granted a leave of absence to serve as visiting professor of economics at the University of Texas during the fall semester of 1958-59.

Don W. Hill, formerly research associate with the American Telephone Company, has been appointed assistant professor of business administration at Rollins College.

Abraham Hirsch, who has spent the last two academic years on leave from the College of William and Mary in teaching at Robert College, Istanbul, returned to his duties at the College in September.

Kenneth Holcomb has returned from Lamar State College to the College of Business Administration, University of Arkansas, as a part-time instructor.

Stephen Homick, formerly with Georgia Teachers College, has been appointed assistant professor in the College of Business Administration, University of Georgia.

Franklin P. Howard, formerly at the University of Virginia, has accepted a position as associate professor of economics at the University of Mississippi.

Robert C. Howell has been named lecturer in business writing in the College of Business Administration, University of Texas.

Patrick Huntley has resigned as instructor of economics in the Department of Economics and Business Administration at Duke University to accept a position of assistant to the dean and lecturer in economics at the University of Arizona.

F. L. Hutchinson has been appointed associate professor of accounting at Mississippi State University of Agriculture and Applied Science.

M. Leslie Infinger, of The Citadel, was a fellow during the past summer at the Case Institute Economics-In-Action Program.

Warren L. Jensen, formerly with Carroll College, has been appointed assistant professor at the College of Business Administration, University of Georgia.

Maximillian Bughardt Jones has been appointed part-time instructor in personnel at the University of North Carolina.

Wilton Jones, who received his M. S. degree in agricultural economics at Clemson College last summer, has become a research assistant in agricultural economics at North Carolina State College.

Bryce D. Jordan has been granted a leave of absence from Mississippi Southern College to do graduate work at the University of Alabama.

Archie Joyner, III, has been appointed part-time instructor in business law in the Department of Economics and Business Administration at Duke University.

Paul Junk, formerly of the Federal Reserve Bank of Chicago, has been appointed assistant professor of economics at the University of Missouri.

M. J. Kafoglis, formerly instructor of economics at Ohio State University, has been appointed assistant professor of economics at the University of Florida.

A. D. H. Kaplan, formerly of Brookings Institution, has been appointed professor of economics at Rollins College.

Randolph G. Kinabrew, professor of economics at the University of Mississippi, attended the regional seminar in economics at Duke University this past summer.

Donald Carlton King has been appointed part-time instructor in economics at the University of North Carolina.

John J. Klein, assistant professor of economics at Oklahoma State University, spent the summer as a member of the research staff of the Department of Commerce and Industry of the State of Oklahoma.

Robert Lee Knox has been appointed part-time instructor in economics at the University of North Carolina.

Alexander Kondanasis has accepted an appointment as assistant professor of economics at the University of Oklahoma.

Adamantia P. Koslin is visiting professor of economics at the University of Oklahoma for the academic year of 1958-59.

Charles E. Landon, professor of economics at Duke University, is on sabbatical leave for the first semester of 1958-59.

Emanuel M. Last directed the fourth annual session of the Executive Development Program of the School of Business Administration of the University of Richmond during June-July 1958.

Jack W. Ledbetter has been appointed assistant professor of business law in the College of Business Administration, University of Texas.

Marvin Elihu Lee has been awarded the Ernest H. Abernethy Fellowship in Southern Industry at the University of North Carolina for the 1958-59 academic year.

Richard H. Leftwich, professor of economics at Oklahoma State University, was a discussion leader in the Political Economy Conference at the University of North Carolina in June, 1958.

H. H. Liebhafsky has been promoted to associate professor of economics at the University of Texas.

B. J. Lindler, of Clemson College, has joined the National Cotton Council with offices in Columbia, S. C.

Glen C. Lindsey has been appointed instructor in economics and business administration at Davidson College.

Stanley Todd Lowry, formerly at Louisiana State University, has accepted a position at East Carolina College as assistant professor of economics.

Gordon W. Ludolf has been appointed instructor in economics in the School of Business Administration of the University of Richmond for the session 1958-59.

Jean Dancer Lunn has been appointed assistant professor of business education at Georgia State College of Business Administration.

Gene McClung, from East Texas State Teachers College, has been appointed head of the Accounting Department at Arkansas Polytechnic College.

J. B. McFerrin, director of Graduate Studies, University of Florida, spent the summer with the Beneficial Management Corp., Morristown, New Jersey on the College-Business Exchange program.

E. Karl McGinnis, professor of business law and real estate in the College of Business Administration, University of Texas, retired at the end of January, 1958, and has been named professor emeritus.

H. C. McLellan, formerly assistant agricultural economist at Clemson College, has become assistant business manager for the Athletic Department at Clemson.

Charles F. Marsh has resigned his position as dean of the Faculty and Chancellor professor of economics and business administration at the College of William and Mary to become President of Wofford College, Spartanburg, South Carolina, as of September 1, 1958.

Francis B. May has been promoted to associate professor of business statistics in the College of Business Administration, University of Texas.

N. A. Mercer, formerly assistant professor of economics, University of Florida, has been appointed associate professor of economics at Union College.

Robert E. Miller, formerly assistant professor of economics at the University of California at Los Angeles, was appointed assistant professor of business administration at The Citadel as of last September.

Amos Monroe Moore has been awarded a doctoral dissertation fellowship by the Ford Foundation for the 1958-59 academic year.

Grady Mullenix, formerly of the University of Texas, has been appointed associate professor of industrial relations at Fresno State College.

Edwin W. Mumma, associate professor of management, has been appointed as an assistant dean in the College of Business Administration, University of Texas.

Charles Myler has been appointed assistant professor of marketing at Loyola University of the South.

Walter C. Neale, formerly instructor in economics at Yale University, has been appointed assistant professor of economics at the University of Texas.

Judson Neff has been appointed professor of management in the College of Business Administration, University of Texas.

W. E. Newbolt, formerly chairman of the Department of Economics, Berea College, has been appointed instructor of accounting, University of Florida.

Clifford Frank Owen, formerly at the University of Virginia, has been appointed associate professor of economics at the College of William and Mary.

Jeanne Owen has been promoted to associate professor of business law in the School of Business Administration at Wake Forest College.

John E. Owen, of Florida Southern College, has been granted a leave of absence to serve as a Fulbright lecturer at the University of Dacca, Pakistan, during 1958-59.

T. Hardie Park, of Vanderbilt University, has been appointed assistant professor of economics at North Carolina State College.

John Paschall has resigned as instructor in economics at Arkansas A. & M. College to accept a position with South-western Publishing Company.

John Gillis Pate, Jr. has been appointed assistant professor in the College of Business Administration, University of Georgia.

W. Nelson Peach, professor of economics, has returned to the University of Oklahoma after two years' leave of absence at the University of Karachi, Pakistan.

Alvarene Peache has been appointed teacher of general business and office practices at Southern State College (Arkansas).

Ralph William Pfouts has been promoted to professor of economics at the University of North Carolina.

Clarence E. Philbrook, professor of economics at the University of North Carolina, is on leave of absence during the 1958-59 academic year in order to pursue research under the support of the William Volker Fund. He organized and directed the Third Annual Political Economy Conference that was held in Chapel Hill, N. C., from June 4 to 13.

Benjamin R. Powel has been appointed lecturer in business writing in the College of Business Administration, University of Texas.

Parley M. Pratt, assistant professor of marketing, has been appointed director of placement for the College of Business Administration, University of Texas.

Jim E. Reese, professor of economics at the University of Oklahoma, is on a year's leave of absence to serve as economist for the Joint Council of Economic Education.

Jesse Richardson has been appointed part-time instructor in economics, College of Business Administration, University of Arkansas.

Norman H. Ringstrom, professor of marketing at Oklahoma State University, has been appointed acting director of Business Extension at Oklahoma State University. During June, 1958, he was a management consultant at Tinker Air Force Base, Oklahoma City.

Costic Roman, professor and head of the Department of Management at Oklahoma State University, spent the summer as a consultant in the Comptroller's Department of Standard Oil Company of New Jersey.

Samuel Rosenblatt has been appointed instructor in economics at Randolph-Macon Woman's College.

Francis Rossner has been appointed part-time instructor in economics at the University of North Carolina.

Richard Lamar Rowan has been appointed part-time instructor in economics at the University of North Carolina.

Robert W. Ryan has returned to his position as instructor in business writing in the College of Business Administration, University of Texas, after a year's leave of absence spent with the Southwest Research Institute in San Antonio.

Warren J. Samuels has been appointed assistant professor of economics at Georgia State College of Business Administration.

Thomas C. Sanders has been appointed acting director of the Evening Division of the School of Business Administration of the University of Richmond.

M. C. Schnitzer, formerly assistant professor of economics, University of Arkansas, has been appointed instructor of economics, University of Florida.

Wendell D. Schoch, professor of business education, has retired from the Business School, University of Miami, after devoting a lifetime to teaching.

Stuart Schwarzschild has been appointed assistant professor of insurance at Georgia State College of Business Administration.

John Shock has been appointed associate professor of business and economics at Hendrix College.

Andre Simmons, instructor of economics, University of Florida, has been granted a leave of absence to study at the London School on a Southern Fellowship Fund Award.

Edward C. Simmons, professor of economics, is on leave of absence from Duke University for the year of 1958-59. He has been granted a Ford Foundation Faculty Research Fellowship.

William A. Simmons has been promoted to professor of accounting at Mississippi State University of Agriculture and Applied Sciences.

Jerry Simpson has accepted an appointment as assistant professor of economics at Texas Christian University.

Roy Smathers has been appointed instructor in business administration at Virginia Polytechnic Institute.

Cecil Lemoyne Smith is teaching in the Secretarial Department, Arkansas Polytechnic College.

Houston D. Smith has been appointed assistant professor of accounting at Georgia State College of Business Administration.

Eldred C. Speck has been appointed assistant professor of accounting in the School of Business Administration of the University of Miami.

John H. D. Spencer has been promoted to professor of management at Mississippi State University of Agriculture and Applied Science.

Darrell Spriggs has been promoted to professor of economics, College of Business Administration, University of Arkansas.

Lorna Stokenbury has been appointed part-time instructor in management, College of Business Administration, University of Arkansas.

A. W. Stonier, of the Department of Political Economy, University College, London, is visiting professor of economics at Duke University for the first semester of 1958-59.

Florence M. Stullken, assistant professor of secretarial studies in the College of Business Administration, University of Texas, retired at the end of the 1958 summer session.

Myrick Sublette, associate professor of political science (who also teaches courses in economics) at Mary Washington College, was at Case Institute of Technology last summer on a Fellowship in Economics-in-Action.

Floyd Swann, instructor in management in the School of Business Administration, University of Miami, has resigned to pursue graduate work at the Harvard Business School.

Eugene L. Swearingen, professor of economics and dean of the College of Business at Oklahoma State University, participated in the Case Method Seminar conducted by the Harvard Graduate School of Business Administration during June and July, 1958.

Albion G. Taylor has been appointed emeritus Chancellor professor of political economy at the College of William and Mary.

Wendell Thomas has returned to Clemson College as assistant agricultural economist after a two-years' leave at Pennsylvania State University.

Henry Thomassen has returned to Georgia State College of Business Administration as associate professor of economics after a year at Prudential Life Insurance Company, New York.

Jack Edwards Thornton has been appointed part-time instructor in economics at the University of North Carolina.

R. W. Travis, formerly associate professor of real estate, University of Florida, has been appointed associate professor, San Jose College.

Ralph N. Traxler, Jr. has been promoted to associate professor of business administration at the School of Business Administration, Emory University.

Wallace Trevillian, head of Industrial Management at Clemson College, was a fellow during the past summer at the Case Institute Economics-In-Action Program.

Samuel Eugene Trotter has been appointed professor of finance at Mississippi State University of Agriculture and Applied Science.

L. C. Underwood has been promoted to assistant professor of economics at Harding College.

Dwight D. Vines, formerly of Louisiana State University, has accepted a position at Northeast Louisiana State College as an assistant professor.

John S. Wagle, professor of marketing at Oklahoma State University, spent the summer as a management consultant at Tinker Air Force Base, Oklahoma City.

W. Macbeth Wagnon has been appointed part-time instructor in business law in the Department of Economics and Business Administration at Duke University.

Claude Walker has been appointed professor of management in the School of Business Administration, University of Miami.

W. L. Roy Wellborne has been made chairman, Division of Business Administration and Social Sciences, Harding College.

John Arch White, professor of accounting, has been appointed acting dean of the College of Business Administration, University of Texas.

Rudolph White has been appointed associate professor of industrial relations at Mississippi State University of Agriculture and Applied Science.

Arthur M. Whitehill, Jr., Reynolds professor of human relations in industry, has returned to his teaching duties at the University of North Carolina after having spent the past year as a Fulbright Fellow lecturing at Keio University in Japan.

W. T. Whitesel, formerly at Winona College, has been appointed associate professor of finance and economics at Louisiana Polytechnic Institute.

Ned Williams, assistant professor of economics at the University of Mississippi, was on leave of absence during the spring semester of 1958 and attended Columbia University.

Sherwin O. Williams, formerly at the University of Mississippi, is teaching accounting at Ouachita College.

John Wittman has been appointed part-time instructor in economics, College of Business Administration, University of Arkansas.

Ralph S. Wofford has been appointed associate professor of accounting at Mississippi State University of Agriculture and Applied Science.

J. Harry Wood, professor of finance and editor of the CLU Journal, has been granted a one-year leave of absence from the School of Business Administration, University of Miami.

George M. Woodward, formerly at the University of North Carolina where he received his Ph.D. in June, has been appointed professor of economics at the University of Mississippi.

William P. Yohe, formerly of the University of Michigan, has been appointed assistant professor of economics at Duke University.

John Yurkow has been appointed assistant professor of accounting at Delta State College.

Eli Zubay has been appointed associate professor of actuarial science at Georgia State College of Business Administration.

NEW MEMBERS

The following names have been added to the membership of the Southern Economic Association:

- Robert E. Bell, Westinghouse Electric Corporation, Atlanta, Ga.
- Louise Camborn Chapman, Memphis State College, Memphis, Tenn.
- Carson D. Evans, Barnwell Producers Credit Association, Barnwell, S. C.
- Frank H. Jackson, Florida State University, Tallahassee, Fla.
- Herman J. Kloefer, Knoxville College, Knoxville, Tenn.
- Joseph L. Massie, University of Kentucky, Lexington, Ky.
- W. W. Morris, Westinghouse Electric Corporation, Pittsburgh, Pa.
- Karl O. Nggaakd, B. F. Goodrich Company, Akron, O.
- Spencer M. Overton, Wachovia Bank & Trust Company, Durham, N. C.
- John M. Peterson, 1223 McAlmont Street, Little Rock, Ark.
- Robert M. Young, Federal Reserve Bank of Atlanta, Atlanta, Ga.
- John W. Dietrich, Norfolk-Portsmouth Newspapers, Norfolk, Va.
- Jack Clarke, Freestate Industrial Development Company, Shreveport, La.
- J. Murray Durham, National Bank of Bossier City, Bossier City, La.
- Philip M. Webster, 1609 Adelia Place, Atlanta, Ga.
- Robert M. Jaeger, Southern Research Institute, Birmingham, Ala.
- Ralph McDonald, Jr., McDonald Beaumont Equipment Company, Newport, Ark.
- Sam Koltun, 4432 Perkins Road, Baton Rouge, La.
- L. M. Dugger, Market Research, Atlanta, Ga.
- Robert B. Williams, Federal Reserve Bank of Dallas, Dallas, Tex.
- William Q. Egan, John Sutton & Company, Atlanta, Ga.

BOOKS RECEIVED

- Andrus, J. Russell and Mohammed, Azizali F. *The Economy of Pakistan*. Stanford, Cal.: Stanford University Press, 1958. Pp. xviii, 517, \$8.50.
- Arrow, Kenneth J. and others. *Studies in the Mathematical Theory of Inventory and Production*. Stanford, Cal.: Stanford University Press, 1958. Pp. ix, 340. \$8.75.
- Bloom, Gordon F. and Northrup, Herbert R. *Economics of Labor Relations*. 3rd ed. Homewood, Ill.: Richard D. Irwin, 1958. pp. xiv, 806. \$7.00.
- Bourneuf, Alice. *Norway: The Planned Revival*. Cambridge, Mass.: Harvard University Press, 1958. Pp. xiv, 233. \$5.00.
- Bowman, Mary Jean (ed.). *Expectations, Uncertainty, and Business Behavior*. New York: Social Science Research Council, 1958. Pp. vii, 202. Paper, \$2.00.
- Brewster, Kingman, Jr. *Antitrust and American Business Abroad*. New York: McGraw-Hill Book Company, 1958. Pp. xxiv, 509. \$12.00.
- Bullinger, Clarence E. *Engineering Economy*. 3rd ed. New York: McGraw-Hill Book Company, 1958. Pp. xi, 379. \$7.00.
- Central Statistical Organisation. *Statistical Abstract, India, 1955-56*, New Delhi, India: Government of India Press, 1957. Pp. xv, 932.
- Chamberlain, Neil W. *Labor*. New York: McGraw-Hill Book Company, 1958. Pp. VIII, 625. \$7.00.
- Cheek, Gloria. *Economic and Social Implications of Automation: A Bibliographic Review*. East Lansing, Mich.: Labor and Industrial Relations Center, Michigan State University, 1958. Pp. v, 125. Paper, \$1.25.
- Clark, Lincoln H. (ed.). *Consumer Behavior: Research on Consumer Reactions*. New York: Harper & Brothers, 1958. Pp. viii, 472. \$6.50.
- Conference on Research in Income and Wealth. *A Critique of the United States Income and Product Accounts: Studies in Income and Wealth*. Vol. XXII. Princeton, N. J.: Princeton University Press, 1958. Pp. IX, 589. \$11.50.
- The Cost of Social Security*. Washington, D. C.: International Labor Office, 1958. Pp. VIII, 201. Paper, \$3.00.
- Craf, John R. *Junior Boards of Executives: A Management Training Procedure*. New York: Harper & Brothers, 1958. Pp. xxi, 162. \$3.50.
- Davidson, Ralph K. and others. *Economics: An Analytical Approach*. Homewood, Ill.: Richard D. Irwin, 1958. Pp. xviii, 393. \$7.00.
- Davies, Daniel R. and Livingston, Robert T. *You and Management*. New York: Harper & Brothers, 1958. Pp. vii, 272. \$4.50.
- Duesenberry, James S. *Business Cycles and Economic Growth*. New York: McGraw-Hill Book Company, 1958. Pp. xi, 341. \$6.50.
- Farnsworth, Helen C. *Multiple Pricing of American Wheat: Present System vs. Two-Price Plan*. Stanford, Cal.: Food Research Institute, Stanford University, 1958. Pp. 50. Paper, \$1.00.
- Feyler, Sherman F. *Income Growth With Security: The Formula-Plan Solution*. New York: Macmillan Company, 1958. Pp. xviii, 189. \$4.95.

- Firestone, O. J. *Canada's Economic Development, 1867-1953*. Income and Wealth. Series VII. London: Bowes & Bowes, 1958. Pp. xxvi, 384. 45s.
- Gårdlund, Torsten. *The Life of Knut Wicksell*. Stockholm, Sweden: Almqvist & Wiksell, 1958. Pp. 354. Sw. kr. 30.00.
- Ginzberg, Eli. *Human Resources: The Wealth of a Nation*. New York: Simon and Schuster, 1958. Pp. 183. \$3.95.
- Goldberg, Samuel. *Introduction to Difference Equations: With Illustrative Examples from Economics, Psychology, and Sociology*. New York: John Wiley & Sons, 1958. Pp. xii, 260. \$6.75.
- Grossman, Morton C. and others. *Readings in Current Economics*. Homewood, Ill.: Richard D. Irwin, 1958. Pp. xii, 452. Paper, \$3.95.
- Hague, D. C. (ed.). *Stability and Progress in the World Economy*. New York: St. Martin's Press, 1958. Pp. XV, 266. \$5.00.
- Hamilton, Daniel C. *Competition in Oil: The Gulf Coast Refinery Market, 1925-1950*. Cambridge, Mass.: Harvard University Press, 1958. Pp. xiv, 233, \$6.75.
- Hartmann, Georges. *Conjonctures Economiques D'Hier, D'Aujourd'Hui, De Demain: Recession Du Crise?* Geneva: Editions Generales, 1958. Pp. 171. Paper, Fr. 14.90.
- Henderson, James M. *The Efficiency of the Coal Industry: An Application of Linear Programming*. Cambridge, Mass.: Harvard University Press, 1958. Pp. xii, 146. \$4.50.
- Hickman, W. Braddock. *Corporate Bond Quality and Investor Experience*. Princeton, N. J.: Princeton University Press, 1958. Pp. xxix, 536. \$10.00.
- The I. L. O. in a Changing World*. Washington, D. C.: International Labor Office, 1958. Pp. 127. Paper, \$1.00.
- Ischboldin, Boris. *Economic Synthesis*. New Delhi, India: New Book Society of India, 1958. Pp. 543. \$6.00.
- Karrenbrock, Wilbert E. and Simons, Harry. *Intermediate Accounting*. 3rd ed. Cincinnati: South-Western Publishing Company, 1958. Pp. X, 982. \$7.25.
- Kia-Ngau, Chang. *The Inflationary Spiral: The Experience in China, 1939-1950*. New York: John Wiley & Sons, 1958. Pp. XVII, 394. \$10.00.
- Kindelberger, Charles P. *International Economics*. Rev. ed. Homewood, Ill.: Richard D. Irwin, 1958. Pp. xxii, 636. \$7.00.
- Klaman, Saul B. *The Volume of Mortgage Debt in the Postwar Decade*. New York: National Bureau of Economic Research, 1958. Pp. XV, 143. Paper, \$2.00.
- Krutilla, John V. and Eckstein, Otto. *Multiple Purpose River Development: Studies in Applied Economic Analysis*. Baltimore, Md.: Johns Hopkins Press, 1958. Pp. xiv, 301. \$4.50.
- Leiter, Robert D. *Labor Economics and Industrial Relations*. New York: Barnes & Noble, 1958. Pp. xvi, 320. Paper, \$1.95.
- Levine, Solomon B. *Industrial Relations in Postwar Japan*. Urbana, Ill.: University of Illinois Press, 1958. Pp. xiii, 200. \$4.25.
- McCune, Wesley. *Erza Taft Benson: Man with a Mission*. Washington, D. C.: Public Affairs Press, 1958. Pp. 123. Paper, \$1.00.

- McFarland, Dalton E. *Management Principles and Practices*. New York: Macmillan Company, 1958. Pp. x, 612. \$6.95.
- McKean, Roland N. *Efficiency in Government Through Systems Analysis: With Emphasis on Water Resource Development*. New York: John Wiley & Sons, 1958. Pp. x, 336. \$8.00.
- Martin, Cyrus A. *Budgeting Your Car*. Washington, D. C.: Public Affairs Press, 1958. Pp. 28. Paper, \$1.00.
- Meade, J. E. *The Control of Inflation*. New York: Cambridge University Press, 1958. Pp. 51. \$1.00.
- Miernyk, William H. and Horowitz, Morris A. *Engineering Enrollment and Faculty Requirements, 1957-1967*. Urbana, Ill.: American Society for Engineering Education, University of Illinois, 1958. Pp. xii, 59. Paper, 25¢.
- Myers, Charles A. *Labor Problems in the Industrialization of India*. Cambridge, Mass.: Harvard University Press, 1958. Pp. xvii, 297. \$6.50.
- Myrdal, Gunnar. *Rich Lands and Poor: The Road to World Prosperity*. New York: Harper & Brothers, 1958. Pp. xx, 168. \$2.25.
- Nevin, Edward. *Textbook of Economic Analysis*. New York: St. Martin's Press, 1958. Pp. xiv, 422. \$4.50.
- Operations Research Group-Case Institute on Technology. *A Comprehensive Bibliography on Operations Research*. New York: John Wiley & Sons, 1958. Pp. XI, 188. \$6.50.
- Petersen, Elmore and Plowman, E. Grosvenor. *Business Organization and Management*. 4th ed. Homewood, Ill.: Richard D. Irwin, 1958. Pp. xv, 678. \$7.00.
- Phelps, Harold A. and Henderson, David. *Population in Its Human Aspects*. New York: Appleton-Century-Crofts, 1958. Pp. 512. \$6.00.
- Phillips, Joseph D. *Little Business in the American Economy*. Urbana, Ill.: University of Illinois Press, 1958. Pp. ix, 135. Paper, \$2.50.
- Posner, Stanley I. and Allan, Herbert J. *What the Businessman Should Know About: Federal Taxes and Foreign Investments*. Washington, D. C.: Public Affairs Press, 1958. Pp. 14. Paper, 50¢.
- Preu, James (ed.). *The Negro in American Society*. Tallahassee, Fla.: Florida State University, 1958. Pp. viii, 89.
- Pritchard, Leland J. *Money and Banking*. Boston, Mass.: Houghton Mifflin Company, 1958. Pp. xiv, 783. \$6.95.
- Renne, Roland R. *Land Economics: Principles, Problems, and Policies in Utilizing Land Resources*. Rev. ed. New York: Harper & Brothers, 1958. Pp. xiii, 599. \$6.00.
- Richards, Max D. and Nielander, William A. *Readings in Management*. Cincinnati: South-Western Publishing Company, 1958. Pp. x, 882.
- Samuelson, Paul A. *Economics: An Introductory Analysis*. 4th ed. New York: McGraw-Hill Book Company, 1958. Pp. xx, 810. \$6.75.
- Sapir, Michael. *The New Role of the Soviets in the World Economy*. New York: Committee for Economic Development, 1958. Pp. 64. Paper, 50¢.
- Steiner, W. H. and others. *Money and Banking: An Introduction to the Financial System*. New York: Henry Holt and Company, 1958. Pp. x, 740. \$7.00.

- Stephan, Frederick F. and McCarthy, Philip J. *Sampling Opinions: An Analysis of Survey Procedures*. New York: John Wiley & Sons, 1958. Pp. xxi, 451. \$12.00.
- Stockton, John R. *Business Statistics*. Cincinnati: South-Western Publishing Company, 1958. Pp. viii, 615. \$6.75.
- Thomas, Brinley (ed.). *The Economics of International Migration*. New York: St. Martin's Press, 1958. Pp. xiii, 501. \$9.00.
- Thomassen, Henry. *Business Planning for Economic Stability*. Washington, D. C.: Public Affairs Press, 1958. Pp. iv, 60. \$2.00.
- Tucker, Gilbert M. *Common-Sense Economics*. Harrisburg, Pa.: Stackpole Company, 1957. Pp. xiii, 289. \$3.75.
- United Nations. *Commodity Survey, 1957*. New York: Columbia University Press, 1958. Pp. xiv, 218. Paper, \$2.50.
- United Nations. *Economic Survey of Asia and the Far East, 1957*. New York: Columbia University Press, 1958. Pp. x, 261. Paper, \$2.50.
- United Nations. *Economic Survey of Europe in 1957*. New York: Columbia University Press, 1958. Pp. xii, 63, A-71, Appendix B-27. Paper, \$4.00.
- United Nations. *Economic Survey of Latin America, 1956*. New York: Columbia University Press, 1958. Pp. xiii, 183. Paper, \$2.50.
- United Nations. *Industrialization and Productivity*. New York: Columbia University Press, 1958. Pp. 77. Paper, 70¢.
- United Nations. *A Manual for Economic and Functional Classification of Government Transactions*. New York: Columbia University Press, 1958. Pp. x, 188. Paper, \$2.00.
- United Nations. *Statistical Yearbook, 1957*. New York: Columbia University Press, 1958. Pp. 674. \$8.00.
- United Nations. *Yearbook of International Trade Statistics, 1956*. Vol. I. New York: Columbia University Press, 1958. Pp. 629. Paper, \$7.00.
- United Nations. *Yearbook of International Trade Statistics, 1956*. Vol. II. New York: Columbia University Press, 1958. Pp. 155. Paper, \$1.50.
- Vazsonyi, Andrew. *Scientific Programming in Business and Industry*. New York: John Wiley & Sons, 1958. Pp. xix, 474. \$13.50.
- von-Gersdorff, Ralph. *Massnahmen zur Förderung der privaten Kapitalbildung im Portugiesischen Reich: Sparmöglichkeiten und Finanzierungsmethoden in Entwicklungsgebieten*. Zurich, Switzerland: Polygraphischer Verlag Ag, 1958. Pp. XVI, 265. Paper, Swiss Fr. 12.45.
- Walker, Helen M. and Lev, Joseph. *Elementary Statistical Methods*. Rev. ed. New York: Henry Holt and Company, 1958. Pp. xvi, 302. \$4.75.
- Wilcock, Richard C. and Sobel, Irvin. *Small City Job Markets: The Labor Market Behavior of Firms and Workers*. Urbana, Ill.: Institute of Labor and Industrial Relations, University of Illinois, 1958. Pp. 170. \$3.50.
- Wyatt, John W. and Wyatt, Madie B. *Business Law: Principles and Cases*. New York: McGraw-Hill Book Company, 1958. Pp. xxi, 866. \$7.50.
- Zolotas, Xenophon. *Monetary Stability and Economic Development*. Athens, Greece: Bank of Greece, 1958. Pp. 33.

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